The Oil and Gas Journal

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 2. TULSA, OKLAHOMA, MAY 29, 1930

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Refinery Section Starts on Page 128

Production Declines 35,814 Barrels

Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.

High Water and Price Cuts Largely Responsible. Hobbs Field in New Mexico Threatens Overproduction

Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.

By James McIntyre

A decline of 35,814 barrels in the average daily production of crude oil in the United States after several weeks of steady increase may have surprised the industry, but 11,000 barrels can be attributed to high water in the Smackover Field; 8,000 barrels of it to a drop in Santa Fe Springs production after the deep cut in the price of crude produced in that field, while the reduction in the output of the Pennsylvania Grade fields followed the recent 25-cent cut in the price of that grade of oil. There was a small increase in the production in Oklahoma, Kansas, and the Texas Panhandle, which may be credited to the Konawa Field in Oklahoma, the Voshell Field in Kansas, and to Gray County, in the Texas Panhandle. West Texas and East Central Texas, the Gulf Coast and Southwest Texas all showed a decrease in crude output.

The Hobbs Field in New Mexico is responsible for the large increase in the production of the Rocky Mountain area. Here is a field that looms as most menacing to the crude price structure unless action is taken to keep down excess output. The prediction is made by the president of one of the largest companies operating in southeastern New Mexico that Hobbs will have a potential production of 200,000 barrels within four months. Pipe lines are being built into the field and one big contract for crude has already been made.

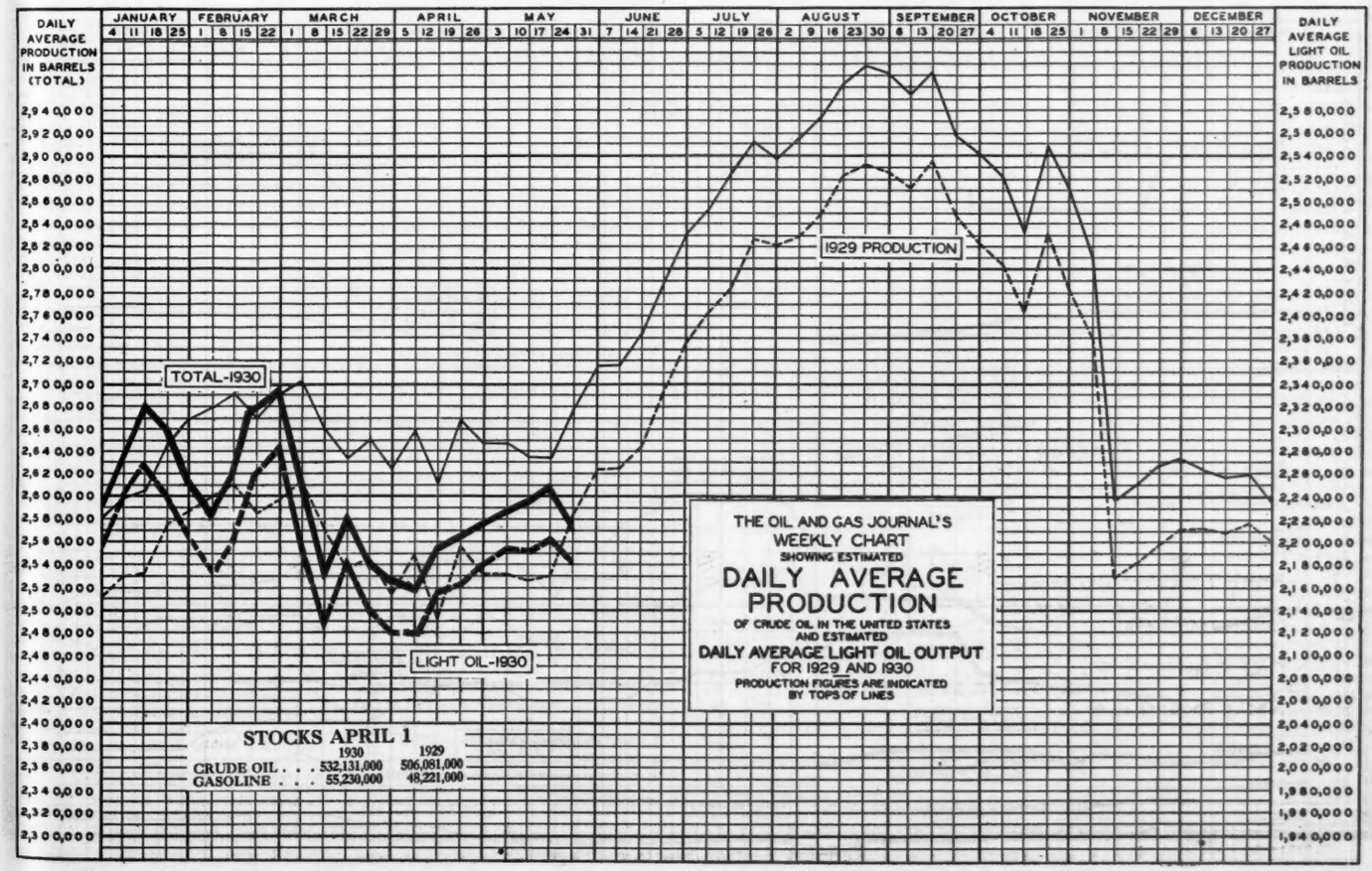
In every other state where there is an overproduction of crude the State authorities, or the producers themselves, have taken action which has kept production approximately level with demand. The State of New Mexico may be called upon to assist, as were the governments of California, Oklahoma and Texas, and it should not be difficult to convince the State authorities that New Mexico as a royalty owner will be a sufferer alike with the producer if overproduction in the State breaks down the market structure. The United States is still producing 81,000 barrels a day more than the Federal Oil Conservation Board's Committee on Economics allotted to the country as the average daily production required from April to December inclusive. California, Oklahoma and Texas are all overproducing, Texas being the worst offender in this respect.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended May 24, 1930, and a comparison with the previous week follows:

	May 24		May 17	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	114,915	.....	114,740	.....
St. Louis-Pearson	35,780	.....	45,785	.....
Seminole	205,110	.....	201,975	.....
Northern miscellaneous	245,655	.....	239,080	.....
Southern fields	58,100	.....	57,400	.....
Total Oklahoma	659,560	.....	658,980	.....
West Texas—				
Hendricks	74,435	.....	76,125	.....
Yates	118,095	.....	118,562	.....
Remainder	118,539	.....	121,828	.....
Total West Texas	311,069	.....	316,515	.....
North Louisiana	34,950	5,050	35,650	5,420
Arkansas	15,725	29,145	17,370	40,240
North Central Texas	139,731	.....	139,836	.....
Texas Panhandle	106,226	.....	104,182	.....
East Central Texas	38,557	.....	40,424	.....
Kansas	132,885	.....	130,975	.....
Total Mid-Continent area	1,438,703	34,195	1,443,932	45,660
Gulf Coast	.....	196,833	.....	201,720
Southwest Texas	.....	69,102	.....	73,534
Eastern	133,500	.....	139,000	.....
Rocky Mountain area	86,736	.....	77,787	.....
California—				
Santa Fe Springs	118,000	.....	128,500	.....
Long Beach	96,000	.....	99,000	.....
Huntington Beach	28,500	.....	28,250	.....
Elwood	46,500	.....	45,000	.....
Ventura Avenue	49,000	.....	50,000	.....
Seal Beach	23,000	.....	23,500	.....
Remainder of State	166,000	90,000	171,000	85,000
Total California	527,000	90,000	545,250	85,000
Total United States	2,185,939	390,130	2,205,969	405,914
Grand Total	2,576,069		2,611,883	

Total Decrease, 35,814 Bbls.; Light Oil Decrease, 20,030 Bbls.



More Gasoline Buying in Oklahoma

Less Pessimism as Demand Increases Although Spot Prices Unchanged. Large Gain in Gasoline Export First Four Months

By C. O. Willson

A slightly better tone developed in the Oklahoma (Group 3) market the first of the week in response to an improved demand. Spot prices had not been advanced but most refiners had more orders from their own station outlets and on contracts with jobbers.

There was still considerable U. S. Motor gasoline being offered on the spot market at distress prices. It was hoped by sellers that this material would be absorbed by the end of the month so that a more stable market with narrow spreads between the high and low could be established by June 1.

Outside of the improved domestic demand the only development of importance in the Mid-Continent gasoline market were the inquiries for the export grades. The four companies — Carter Oil Co., Cities Service Export Oil Co., Atlantic Refining Co. and the Sinclair Refining Co.—which have been active in the export market since last fall were making surveys covering the quantity of the 375 and 390 endpoint grades available for shipment next month. Up to Tuesday it was not known definitely what quantity would be purchased.

In May, the purchases of these companies were substantially less than in previous months. Several refining organizations in anticipation of a more active domestic demand reduced their export sales at that time. The disappointing developments in the domestic market and the lower prices are said to have reversed this situation and now a large number of companies have indicated their willingness to increase their export orders on a basis comparable with the winter business.

Just what position the export companies will take in regard to purchases during the summer months is not known. Some of the trade feel that the large purchases during the winter months were to meet an emergency condition in which Mid-Continent refiners were in need of relief during a dull period and that with the arrival of the season for maximum demand the major factors in the Export Petroleum Association, Inc., will expect the Mid-Continent operators to dispose of their gasoline output through domestic channels.

REFINED MARKET BAROMETER

With the approach of one of the main gasoline consuming months of the year the demand at refineries is showing a general improvement throughout the entire country. Prices over the week have shown little change and in some areas distress sales are being made with price concessions. Sellers are generally confident the market will become firmer after the first of the month. Kerosene continues to drag on the domestic market with little change in the export situation. Strength in fuel oils is largely confined to coastal areas where the marine demand is expanding. At other points, where conditions are largely dependent on the industrial demand, the market continues weak. Gas oils are also generally sluggish. Natural gasoline demand slow and prices lower. Steam refined cylinder stocks and bright stock prices lower in eastern areas. Wax easy.

Mid-Continent—Demand for gasolines improves with minor changes in spot prices. Natural gasolines easy and prices lower on some grades. Kerosene inactive. Fuel oil and gas oil demand slow. Steam refined stocks and bright stocks weak. No improvement in wax.

East Coast—Gasoline market steady as demand improves. Pronounced weakness in bright stocks and steam refined stocks. Kerosene easy and lower prices expected. Fuel oil and Diesel oil firm. Wax weak. Gas oil sluggish.

Pennsylvania—Prices on most grades of steam refined stocks and bright stocks lower. Neutral oil prices generally steady. Fair demand for gasoline and kerosene. Wax prices unchanged.

Gulf Coast—Fuel oil market strong. Gasoline unchanged. Fair movement of pale and red neutrals.

Chicago—Better demand for gasoline. Prices unchanged. Small orders for kerosene. Light movement of industrial fuel oils. Lubricants weak.

California—Gasoline market continues weak due to price cutting in retail market. Adequate supplies of practically all other refined products.

Large Export Increase

On the other hand it is pointed out that the foreign demand for gasoline so far this year has run far ahead of expectations and this may presage a steady export demand through the summer months in which Mid-Continent refiners will continue to share. Figures released by the Department of Commerce last week showed that exports of gasoline and other light end products for the first fourth months of 1930 from plants in United States totaled 21,660,623 bbls., an increase of 4,230,237 bbls. when compared with the 17,430,386 bbls. for the same period last year. This gain in gasoline exports of almost 25 per cent is far ahead of predictions made early in the year and when added to an increase in domestic consumption of approximately 12 per cent is giving refiners an exceptional increase in total demand.

While it is not to be expected that the foreign demand will continue to increase at the 25 per cent rate, the developments so far this year do indicate that the expansion of foreign refining facilities has not yet become a serious competitor in the foreign gasoline market and companies in this country are at least getting their share of the increased consumption.

Many Rumors

As is usually the case when the gasoline market weakens, numerous rumors are being circulated relative to developments which have brought about this situation with bearish predictions regarding the future. One of these rumors that was so widely circulated that it was accepted as a fact by the trade last week was strongly denied. This rumor had to do with a major Standard unit with plants in Texas which was supposed to have actively entered the gasoline market in the Middle West with spot sales of U. S. Motor gasoline at low prices. It was stated officially that this company had not entered the spot market and only had one jobber customer in the mid-

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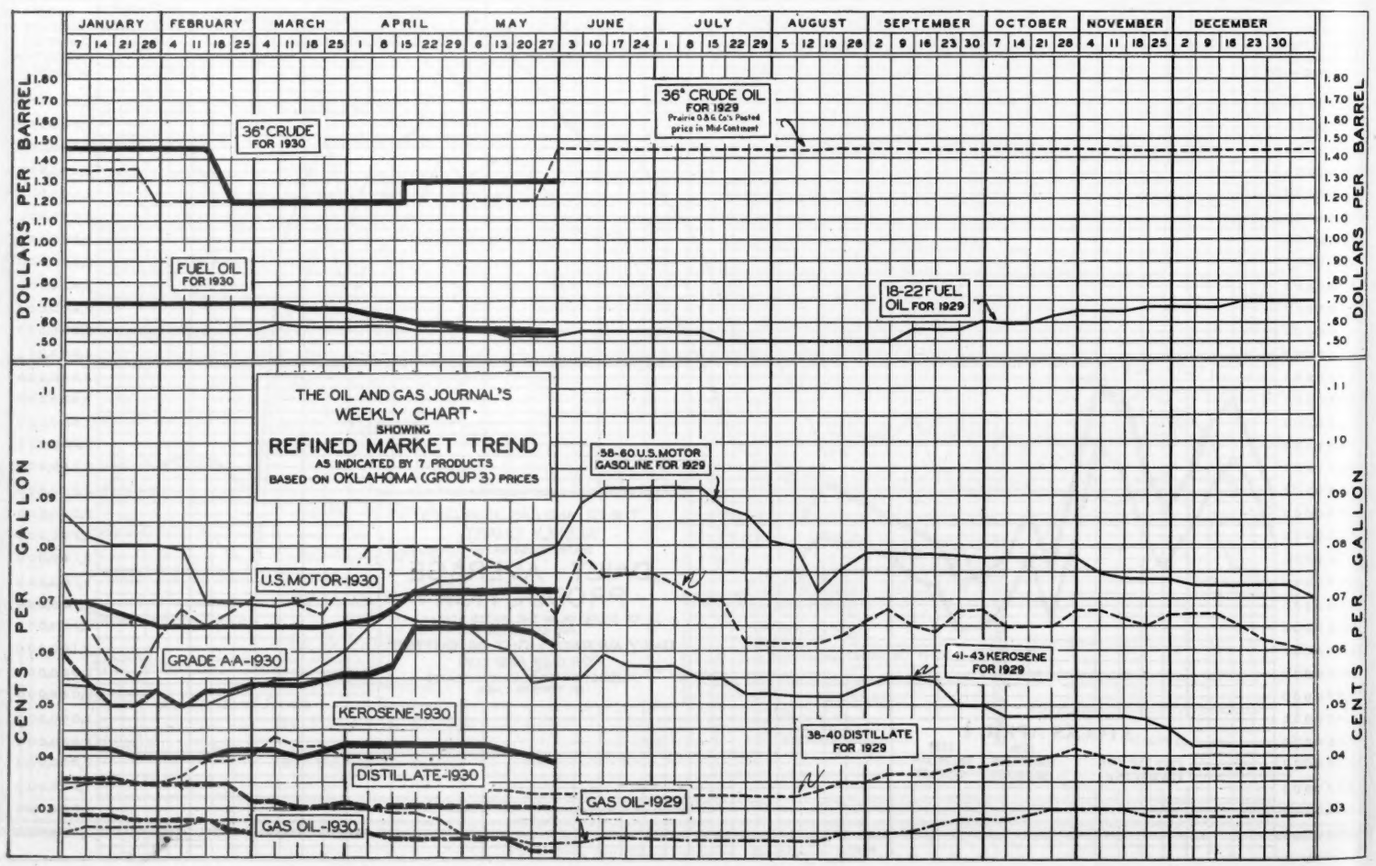

Executives Seek Engineers' Counsel

Trend of Numerous Technical Problems in Petroleum Industry Brings Added Demands Upon Services of Engineer

By L. G. E. Bignell
Petroleum Engineering Editor

"You are meeting here today to discuss problems relating to production and to bring together the technical, the practical and the executive points of view. This interchange of opinion in a public forum of this kind is one of the most valuable assets any industry can have. It provides an opportunity for at least indicating a possible solution, if not an answer, to some of the problems which are always with us."

The above is quoted from part of the opening address of President E. B. Reeser of the American Petroleum Institute before the spring meeting of the Mid-Continent District of the Division of Production, held in Tulsa on May 23 and 24.

Following Mr. Reeser's address, William N. Davis, vice president of the American Petroleum Institute and chairman of the Division of Production, spoke on "Organizing Oil Production for Stability and Economy" and further stressed the point that the engineers are invited to present to their executives their views and recommendations on the problems of the day as they affect the petroleum industry.

"The application of science to the search for petroleum has constituted a definite and important contribution to the political and commercial security of our nation in that it has largely increased the known reserves, but the potential production is now so much in excess of demand that the value of this contribution may be largely dissipated through wasteful production and consumption, unless means are found of a more effective and permanent character than any now commonly used, to secure scientific, orderly and controlled development and production," Mr. Davis said.

Value of Engineering

Mr. Davis continued with a discussion of the economic value of engineering and pointed out how the conditions now existing in the petroleum industry need the best technical thought for their regulation and control. To quote again from his address:

"For many years producers have lived in anticipation of the decline in existing pools and the failure to find adequate new ones. That dream has never materialized but they continue to cling to it. Within the last 24 hours I have heard able, well informed producers say that a survey of the important pools is encouraging because some have passed their peak and others are likely to do so within the next few months.

"This, in the face of a current demand of approximately 2,600,000 bbls. and a daily potential domestic production of more than 6,000,000 bbls. not to mention the immense actual and potential foreign production seeking a market in the United States. Truly the oil producer is the optimist, and I would not have him turn pessimist, but the sooner we all realize that nature is not going to regulate our business for us the sooner we will all earnestly set to work to do it ourselves."

To illustrate the possibilities of unit control of an oil pool, Mr. Davis gave the following enlightening information about the Oklahoma City Pool:

"The discovery well in the Oklahoma City Pool was completed in December, 1928. In passing, it may be said that the operating company made an earnest, if unsuccessful effort, to unitize a considerable area around the well, both before and after completion, and also tried to promote a program of one well to 40 acres, but the pool has been developed on the old intensely competitive basis. Oklahoma producers throughout the state have met the emergency created by the immense potentialities of this pool, by submitting to heretofore unprecedented curtailment and proration orders of the Corporation Commission, and the total production of the state has been held close to the refiners' demands. This has been a fine accomplishment, of which Oklahoma producers may well be proud; but how much better if the Oklahoma City Pool had been unitized in whole, or even in part. Let us consider a few figures.

Big Potential Developed

"A recent report on the Oklahoma City Pool shows 215 completed wells, of which 136 are producing, approximately 115,000 bbls. a day. There are 202 wells drilling, and 48 rigs up. Estimates of the potential daily production of completed wells range from 1,200,000 bbls. upward. What would be the position of the industry, and more particularly of the Oklahoma City operators themselves, today, if more than a million barrels there and over 200,000 bbls. daily additional production from other pools in the state were being forced on the market? Proration has saved the industry from such a calamity; but at whas a cost as compared to unit operation!

"If development at Oklahoma City, including surface equipment, costs approximately $150,000 per well, the 215 completed wells represent an investment of $32,250,000, and 250 wells now at various stages of drilling will cost an additional $37,500,000. If the potential production of the 215 completed wells is 1,200,000 bbls. a day, then 20 average Oklahoma City wells, completed at a cost of $3,000,000, could produce the 115,000 bbls. daily production, which is all that the market has been able to absorb. If, then, the Oklahoma City Pool could have been fully unitized, development costing $3,000,000 would have produced as much income to date as the $32,250,000 now in completed wells, to say nothing of the $37,500,000 in the course of being spent.

"It is doubtless true that in the present composite mental attitude of the industry, the Oklahoma City Pool could not have been completely unitized and, therefore, the above figures reflect an unattainable situation; but contemplation of such figures by men interested in the industry should have a far-reaching influence in changing its composite mental attitude."

Executives Must Decide

Following these addresses by Messrs. Reeser and Davis, J. R. McWilliams, chairman of the meeting, asked for dis-

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Two Pictures of the Oil Industry

Necessity for Maintaining Balance Between Production and Consumption. Impossible to Produce Oil From Deepest Wells at Present Prices

By E. B. Reeser,
President American Petroleum Institute*

A pessimist should never be allowed to run at large. He is oftentimes a dangerous citizen and I hesitate to take a position which would put me in the class of those who look through dark glasses. Nevertheless, it is important that proper consideration be given to well known conditions and to authentic statistics. The petroleum industry is at the edge of a deep precipice and an irresistible force seems to be crowding it closer and closer.

The first picture to look at is painted on the theory that the old law of supply and demand must prevail. Petroleum engineers, following the geological and geophysical departments, are much in evidence. Discoveries of high pressure producing areas have followed each other in rapid succession. A perfect deluge of petroleum has been brought to the surface. The tremendous potential production now generally admitted throughout the several oil-producing states will inevitably cause a collapse in the industry such as has never before been known. In Kansas, Oklahoma, Texas and California, a number of pools are restricted to 25 per cent or less of their potential yield.

Drilling should be stopped but under the highly competitive conditions, it is cheaper to drill a test well when the expiration date of a lease is approaching, than it is to take chances on securing a renewal. Under the method of a few years ago it was customary to direct the land department to secure a renewal on acreage about to expire, and the instructions were carried out without much effort or expense. The activities of the modern royalty company have changed this condition so that today companies find it so difficult to arrange for a renewal that they prefer the drilling of a well for the purpose of validating or, if unproductive, of surrendering the acreage. Large and small companies are following this practice.

Burden Becoming Unbearable

In addition to the great potential production and to the extensive drilling program, stocks of crude and refined products are reaching new peaks each day. It is fair to assume that from the thousands of wells now drilling, or contemplated, new additional producing areas will be discovered. The burden is becoming unbearable and it is unreasonable to expect that prices can be maintained.

Millions and millions of dollars of petroleum securities now in the hands of thousands of investors throughout the United States will depreciate to a great extent. Fear of loss because of the conditions referred to will cause investors to unload their securities, and this in turn will create liquidation in every other field of investment.

Individual producers and small companies owning hundreds of thousands of wells throughout the United States, which have been operated on a very narrow margin of profit, will be unable to stand a slashing of prices and they will, therefore, be forced to sell their properties to stronger units at prices which usually accompany distressed conditions.

After the orgy of overproduction has run its course, the petroleum industry will pass through a period of readjustment and out of the chaotic conditions, will emerge a stabilized industry owned and controlled by a few major interests.

The picture I have attempted to present to you is one that, in my opinion, can easily happen and the only thing to prevent it from happening will be the continuation of a rigid curtailment policy through co-operation.

The Other Picture

The other picture, about which I prefer to talk, may be seen through the clear glasses of an optimist. We see a basic industry of this great nation grow by leaps and bounds to meet the demand of a hundred million people riding in automobiles to their work, as well as to their play; and to meet the demands of the millions of trucks carrying heavy burdens previously carried by steam railways.

America has been built on an agricultural foundation. The farmers must be prosperous and happy in order to make the nation prosperous and happy. As a result of this requisite, the millions of farmers scattered throughout the nation are being connected with hard surface roads. Their land must be turned over through the use of economical tractors. In fact, their everyday lives are dependent on the uses to which they can put internal combustion engines.

All these outlets, together with airplanes, motor boats, buses, and many other uses, require a tremendous supply of petroleum products. Notwithstanding the depression now prevailing, consumption of gasoline for the first quarter of this year is far in excess of the same period last year. Fortunately for the industry and the nation, the petroleum engineer has developed devices and made it possible to continue an adequate supply of petroleum for an indefinite period. He has made it possible to drill to depths which a few years ago were regarded as a barrier to future expansion. The industry recognized the necessity of an assured supply. Engineers have eliminated every question of doubt as to the ability to provide adequately and at reasonable cost to the consumer.

It is true that the volume of petroleum products above the ground has reached a staggering figure. Based on demand, however, the supply is growing less and less. For instance, gasoline stocks are considered very alarming—and indeed they should be reduced by many millions of barrels in order to be on a proper and economical basis—and yet, based on the number of days' supply on hand, in January, 1927, the stocks in the United States were equal to 56 days' supply, as compared to 42 days' supply at the end of January of this year. Engineering skill has made our refineries so efficient and the movement of tank cars has become so rapid that it is no longer necessary or desirable to carry large gasoline stocks.

It is extremely difficult to comprehend the tremendous volume of business now being done in the petroleum industry. Figures thought of a few years ago are of no use today. New producing areas will be necessary from time to time to meet the tremendous demand of more than 2,500,000 bbls. of domestic crude per day.

The efforts to meet these great demands

(Continued on Page 141)

*Before Mid-Continent district, A.P.I. Division of Production, Tulsa, May 23.

Weighing Wells Still in Its Infancy

Definite Information as to Loads on Rods and Pumping Equipment Considered an Important Engineering Problem

By L. S. Thompson
Petroleum Engineer, Carter Oil Co.*

The matter of obtaining definite information as to the loads on sucker rods, and all pumping equipment has interested a number of engineers for several years. Various methods were devised to obtain the desired data, but credit is due to F. W. Lake, of the Union Oil Co., of California, as much as to any one man, for the prominence given this subject today, and to the development of the recording dynamometer. Mr. Lake's results, prior to the end of 1927 are given in the paper, "Sucker-Rod Strains and Stresses," delivered before the New York meeting of the A.I.M.E., in February, 1928.

At the present time, there are three general types of recording dynamometer in use:

1. The spring type, in which the loads are obtained by the distortion of springs.
2. The electric telemeter, in which the loads are recorded by electric instruments, the current being mutated by the variable resistance of carbon piles attached to the polished rod, and carrying the load of the well.
3. The hydraulic type.

The last type may be divided into two classes, the piston dynamometer, and the diaphragm type.

If properly calibrated, the results obtained with any type of instrument should be the same. The choice of instrument should be determined by the following criteria:

1. Accuracy, dependability and durability.
2. First cost.
3. Facility with which the apparatus can be mounted and detached.

Whatever type of machine is used, it should receive the care and attention due an expensive apparatus. All parts should be kept clean and all moving parts lubricated. The dynamometer should be properly calibrated before being put in use, and checked at intervals either in a testing machine, or, if one is not available, against another dynamometer which has been recently tested. With the hydraulic type (which is most generally used), intervals of at least one year should be possible between these checks on calibration, unless there be good reasons to suppose that something has gone wrong.

*Before Mid-Continent district, American Petroleum Institute, Division of Production, Tulsa, May 23.

Purpose and Field of Application

Before entering into any discussion of dynamometer tests, one should understand exactly what this work is, and what are its limitations. The dynamometer is not an instrument of magic. It is simply a tool. By its aid, a fund of valuable data is obtained, which without it, would be quite impossible. Any man who really understands the business of pumping oil wells can, without a dynamometer adjust his stroke and balance his well as perfectly as necessary for all practical purposes. But, to do this work correctly, weeks and even months of constant experiment and observation may be required, and frequently, there is the danger of well conditions changing before constructive changes can be made. The same information can be obtained in less than a day from proper interpretation of the results of weighing the well.

As regards a check on the performance of all equipment, the mere keeping of systematic records provides a fund of valuable information, but even this may lead to costly mistakes and needless reduplication of effort. From the results of the dynamometer tests, however, exact information can be obtained so that one will know exactly what power is transmitted by his belt, what loads are carried and what service is delivered by his sucker-rods, whether or not the particular working barrel he is using presents characteristics which are detrimental to the service of a particular well, etc.

With wells on the beam, it is possible to determine the best length and speed of stroke both for production and for effect on equipment. The well can be correctly counterbalanced, the proper size of rods chosen, and the effects of a loose rig or of loose or improperly adjusted auxilliary equipment be demonstrated.

The same information can be obtained in the case of wells pumping on the jack from central powers. It also has the advantage of giving direct information for balancing of the wells, one against the other.

With the dynamometer, also, it is possible to determine the mechanical efficiencies of the equipment with the resultant choice of prime mover, reduction gears, size of belt, etc. Many other uses are to be found for this instrument such as in field tests, as well as in production problems, and as an aid to modern engineering practice as applied to the business of producing oil, it is becoming almost indispensable. It must be constantly borne in mind, however, that it is only through careful, scientific interpretation of the cards that results can be obtained. Do not expect the dynamometer to tell you too much, for if you do, you will be disappointed.

Operation

The engineer should know his instrument. Before making a test, he should see that all parts are in working order, that no moving parts are bound in any way, and, in the case of instruments of the hydraulic type, that the system is free from air bubbles.

In taking a card, it is better practice to let the pencil track for several strokes, instead of taking a single stroke. In this way, any irregularities in the pumping cycle are shown. The actual time consumed in taking a card, then will be about a minute. Whenever any change is made in condition, as in speed or length of stroke, at least 30 minutes (and often longer intervals, depending on the well), should elapse before taking a card. One of the greatest delays incurred with many types of instruments is in making the set-up and tearing down, therefore, when obtaining a dynamometer this should be borne in mind, and assuming the accuracy of the instruments in question is the same, the one that is the easiest handled at the well, should be given priority.

In order to derive the greatest possible information from the dynamometer cards, a large amount of accessory data are required. The length and speed of stroke are absolutely essential, as well as the specifications, sizes and length of string of both tubing and rods, and the design and dimensions of the pump.

The sizes and specifications of all surface equipment, such as engine or motor, pulleys, bandwheel, belts, etc., are necessary. The r.p.m. of the various elements, engine, countershaft, reduction gears, etc., should be recorded. Production at the time of observation is important for comparison of improvement or the reverse, in a given well, although this figure cannot be applied indiscriminately to other locations, owing to different well conditions, gas oil ratio, water oil ratio, formation pressure and the like.

Interpretation of Cards

This topic affords room for considerable discussion. Whatever interpretation is made, however, should be carried out with a consideration of all accessory data, as much as from the card itself. Broadly, the interpretation of dynamometer cards falls into two general divisions.

1. Slight inspection, and
2. Interpretation based on mathematical deduction.

Much valuable information can be obtained from a simple sight inspection of a card. Many details, such as shocks caused by loose rigs and equipment, pounding fluid, etc., are perfectly obvious at a glance; but to derive fullest advantage from such inspection, considerable experience is necessary on the part of the operator, and his familiarity with the ideal pumping cycle, and the corresponding ideal card is essential. For this reason, a brief description of the ideal cycle is given:

Take for example a 4,000-foot well three-fourth-inch rods in 2½-inch tubing at 20 s.p.m. with a 54-inch stroke. Let us assume that the speed of rotation of the bandwheel is practically constant, imparting a perfect harmonic motion to the polished rod. Starting with the polished rod at the bottom of its stroke, as the crank moves forward from top center, the polished rod is moved upward. This upward impulse is transmitted down, through the string of rods to the plunger at the speed of sound (about 16,000 feet per second for steel). In the example chosen, the crank will then, have covered 30 degrees of arc from top center by the time the plunger starts to move upward. As the plunger starts up the traveling valves seat, and the weight of the column of fluid (either in whole or in part, depending on the type of pump), is transferred from the tubing to the rods. This load is transmitted back to the polished rod, the effect reaching there by the time that the crank has completed 60 degrees of arc. In the meantime, the polished rod travel is being

(Continued on Page 141)

MID-CONTINENT OIL SCOUTS AND LAND MEN'S ASSOCIATION AT BARBECUE ON W.

Summarize Results of Research Work

Refiners Now Making Cracked Gasoline Having High Vapor Pressure Which Limits Choice of Blending Material

By W. T. Ziegenhain

A larger appreciation of the refiners' problems in the use of natural gasoline, marked the discussion which followed many of the papers delivered during the convention of the Natural Gasoline Association of America in Tulsa May 20, 21 and 22. The other outstanding feature was the presentation of a summary by Dr. G. G. Brown of his four years' work at the University of Michigan as director of research for the association. This was included in a 300-page book which was reviewed in the meeting by Doctor Brown page by page. The experimental data had been so well analyzed and tabulated in convenient form, the review of the book seemed to answer all of the questions that had been in the minds of those attending so when time came for discussion, Doctor Brown was spared the usual barrage of questions. D. E. Buchanan, of Hanlon-Buchanan, Inc., then remarked that Doctor Brown had answered the questions the association formulated four years ago and that the results of the work now stand as the basis on which the association expects to enlarge the use of natural gasoline and its products through a program of education.

Refiners' Viewpoint

One of the subjects which was discussed in detail was that of changing the present specifications. A committee of the association has had the problem of making changes in the present specifications with the view in mind of designating a truer measure of the blending value of the natural gasoline. The progress of the work was reported by G. M. Davidson of the Empire Oil & Refining Co. in which he outlined the tentative changes. Mention of a proposed "volatility factor" which is used with the per cent distilling over at 140° F. and the Reid vapor pressure as factors in an equation intended to express "volatility," brought many unfavorable comments.

Some felt the proposed changes were too involved. There were some who were willing to hazard a guess that no change could be made that would be acceptable to all manufacturers. With the manufacturers unable to agree on what specifications were vital, R. B. High, superintendent of the Shell Petroleum Corp. refinery at Houston, Tex., was asked to present the refiner's attitude. Mr. High attempted to review the overall problem of blending natural gasoline at refineries and to cite those characteristics of the blending materials used in which the refiner was most interested. He said that whatever changes were made, the new specifications would have to at least embody the same guarantees. He further stated the present ones are inadequate and that a refiner did not know what to expect until he received the car and tested it. He said the refiner is interested in:

1. Intermediate boiling points.
2. Volatility as expressed by some intermediate boiling point or by some other imperical means.
3. Highest useful compression or antiknock value.
4. A reasonably low vapor pressure on the finished blend.
5. Gravity, to some extent.
6. Cost.

He then said:

"Some literature has been published on the effect of lowering the endpoint. This is of minor importance and is practically negligible on the higher percentage blends, while for the usual blends generally handled in the refineries, it may be disregarded entirely. It is not necessary to go into further detail in the effect of natural gasoline on the intermediate boiling points or volatility. These effects can be readily calculated when the distillations of the components are known, and the finished blends will follow a straight line relationship with extreme accuracy. I feel that the effect of natural gasoline on the antiknock value of the finished fuel has been slightly over emphasized. It is entirely true that the usual Grade AA natural gasoline has a good antiknock value and will have its effect on the finished blend, but the refiner should not be misled into the idea that he can make a high grade antiknock fuel equivalent to the antiknock fuels now on the market simply by the use of natural gasoline.

"Gravity is still important to a few who are selling their product on a gravity basis but is becoming less important as this requirement is dropped from ordinary motor specifications. In looking over the above points, it will at once become apparent that there is no definite limit to the results that can be obtained by blending additional natural gasoline. Intermediates can be lowered, volatility can be increased, gravity can be raised and the antiknock value can be increased within a limited range. The negative effect that comes in at this point, is the vapor question whereby any increase over a predetermined maximum will cause vapor lock and render the gasoline useless as a motor fuel.

Factors Involved

"I think I am safe in stating that all refineries are now primarily interested in marketing the best possible product with proper volatility and as high an antiknock value as is possible with the materials at hand. With the volatility standard once set, the refiner is able to calculate the amount of natural gasoline needed, if any. In addition to this, he may calculate the quantity necessary to raise the finished blend to the maximum vapor pressure. If this quantity on any particular grade falls below the quantity necessary for volatility or any other intermediate points, a more stabilized product must be purchased. This enables the determination of the proper grade.

"The more general case, is where the quantity necessary for volatility falls considerably below the amount necessary for vapor lock. Thus the refiner is given a choice of a maximum and minimum which can be used. This is where the cost comes in as he will certainly not use maximums under adverse price structures. The refiner is also interested in the uniformity of his product and will not consider changing his product daily to fit a changing natural gasoline market. Not only must the price of natural gasoline be lower than the established grade, but it must not fluctuate out of relation to the motor grades if the natural gasoline manufacturer is to expect a consistent use of his products. We must also consider the specifications of natural gasoline at this point, which are particularly indefinite at the present time. Up to a year or so ago, a change in the natural gasoline specifications did not appear necessary even though the vapor pressure was not stated, and even though it was considered by the general refiner that the specifications were more or less arbitrarily standardized by the natural gasoline industry to suit its particular conditions. It was fully realized at that time that different grades were preferable for certain purposes but equivalent grades were fairly constant in composition and intelligent blending could be carried on.

"These conditions were altered by certain new fields coming in with gas of a high butane content, by improved efficiency in gasoline plant, and the manufacture of aviation, highly stabilized motor fuel blends and commercial solvents. The effect of these products was to create residual products which the natural gasoline manufacturer attempted to blend to the so-called synthetic naturals characterized by high butane content, high gravity together with high recovery. Taking Grade AA as an example, we may now receive a material with the butane content ranging from 20 per cent to 40 per cent, and with gravities ranging from the low eighties to as high as 91 and 92° A.P.I. Vapor pressures also vary under similar extreme ranges."

Refinery Gasoline Volatile

R. C. Alden, assistant research director for the Phillips Petroleum Co., then expressed the belief that not all of the refiners' difficulties were the result of changes in the processing methods, etc., of the natural gasoline industry, but that some of the difficulty might be traced to the fact that refiners are now manufacturing a large portion of their natural gasoline requirements in their cracking plants and that the gasoline being produced from crude and from cracking now, naturally contained a large percentage of very light fractions. The refiner is now producing gasoline that has a relatively high vapor pressure and he is necessarily more concerned about the vapor pressure of the natural to be purchased. Mr. Alden emphasized the need to deliver to the refiner the quality of material the refiner needed and predicted that in time, a strict maximum vapor pressure specification would be adopted.

Dr. E. R. Lederer then asked for an

(Continued on Page 142)

OWN FARM NEAR TULSA ON THE OCCASION OF THE ANNUAL CONVENTION, MAY 24

Treatment of Crude Oil Emulsions

Symposium of Methods of Converting Emulsified Crude Into Acceptable Pipe Line Oil in Mid-Continent

Compiled by Charles D. Miller*

It has been estimated that 20 per cent of all the oil produced in the Mid-Continent Field requires treating before it will be accepted by the marketing companies. When it is considered that any well producing water is a possible producer of emulsion, the magnitude and importance of the problem is evident.

Emulsion

An emulsion as it exists in the production of oil consists of oil-water and some solid. It is generally conceded that an emulsion is practically impossible in the absence of either an emulsifying agent or some agitation. The solids produced with the oil and water are the chief emulsifying agents, the tendency being for the solids to be held firmly in the interface of the two liquids and produce a film that prohibits the oil and water from separating. If during the process of absorption of the solid the facial tension on the oil is lowered, a water in oil emulsion results and should the facial tension in the water be reduced, an oil in water emulsion results. Which liquid receives the reduction of facial tension depends entirely upon the nature of the solid. It is also possible, depending upon the viscosity, to suspend the water in the oil and form what is commonly called a loose emulsion. In producing crude oil the water in oil emulsion is by far the most prevalent, the oil in water existing only in rare instances. Assuming that an emulsion is either minute globules of water surrounded by a viscous film of oil or water dispersed throughout the fluid in such small particles as to be nonresponsive to gravity, it follows that to successfully break down an emulsion, the film must be ruptured and the water allowed to collect, or the viscosity of the oil must be reduced so as to produce a greater specific gravity differential between the oil and water, thus causing the water to settle out, or still further some outside force must be introduced to aid the water to collect in large enough globules to gravitate out of the oil.

Formation of Emulsion

The various factors necessary for the formation of an emulsion are not confined to any one method of production, but rather are found in all of them. In wells flowing naturally by water drive, little or no trouble is experienced. However, those wells flowing by natural gas pressure are a constant source of difficulty. Laboratory tests by the Bureau of Mines have proved that the tendency for the emulsion to be formed back in the sand is very slight. The emulsion is found either at the point of entrance into the hole or some place in the pipe. The great agitation set up by the oil in flowing into the drill hole and by the gas as it bubbles up through the fluid tends to disperse the water into minute particles, forming a tight emulsion. The pressure differential set up by the fluid in flowing through the flow bean is also a factor in the formation of an emulsion.

Gas lift wells form a fair comparison to flowing wells in that the agitation caused by the introduced gas is responsible for a large part of the emulsion. Microscopic examinations show that small volumes of gas cause unstable emulsions easily broken down, and large volumes cause more permanent ones, not so easily treated. In the early stages of air-gas lift production at Seminole, it was thought that air formed the tighter emulsions, but later developments have tended to disprove this theory. The natural gas in the Seminole Field contains an unstable sulphur compound which breaks down when passing from low to high stages of compression. The sulphur thus formed is partly soluble in oil and is a very powerful emulsifying agent. The black sludge, as one form of emulsion is commonly known, is a direct result of the presence of iron sulphide, and has proved to be the most stubborn emulsion in the field.

In swabbing wells the agitation necessary for the formation of cut oil is caused by the slippage of the oil past the swab while coming out of the hole, and the rush of the oil through the check while going into the hole.

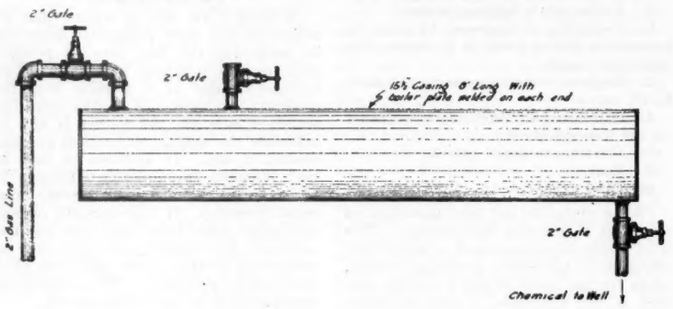
The usual conditions in pumping wells causing emulsion are:

1. The slippage of fluids past faulty valves, plungers and cups.
2. Wells pounding down.
3. Leaks in the tubing and tubing catchers.
4. The agitation of the oil by gas in the tubing, lead lines and tanks.
5. The whipping of rods in the tubing.

Treating Methods

It has been found in this area that a combination of chemical, heat and settling is the most practical and most economical method of handling the existing emulsion. The salient factors in treating by this method are:

1. The proper chemical compound.
2. The point of introduction of chemicals.
3. The mixing of the chemical.
4. The dispersion of the chemical.
5. The amount of heat.
6. The time allowed for settling.
7. The separation of gas.
8. A general treating plant construction.
9. The investment and operating cost.



LOW PRESSURE DOWN HOLE CHEMICAL LUBRICATOR FOR BATCH LOTS

Points of Introduction

The chemical should be introduced at a point closest to the wells that are cutting most, in order to take advantage of the agitation in the lead lines.

The down hole treatment has come into general use on all kinds of wells and has proved to be highly satisfactory, especially on gas lift installations. In treating down the hole, the agitation and the natural heat in the bottom of the hole is used to advantage. A typical high-pressure down-the-hole lubricator is shown in the attached sketch.

Treating down the hole may result not only in a reduction of the chemical cost, but also reduces or entirely eliminates the use of heat on the surface. A reduction or elimination of heat is generally followed by an increase in gravity and a slight increase in volume. On some leases, particularly those which are on the pump, treating in the hole is not always the most economical method. However, there are some leases on which only a few pumping wells are cutting, which in all probability could be successfully treated down the hole. On pumping leases on which all the wells are cutting, the most practical and economical method is to treat the oil on the surface.

Kind of Lubricators

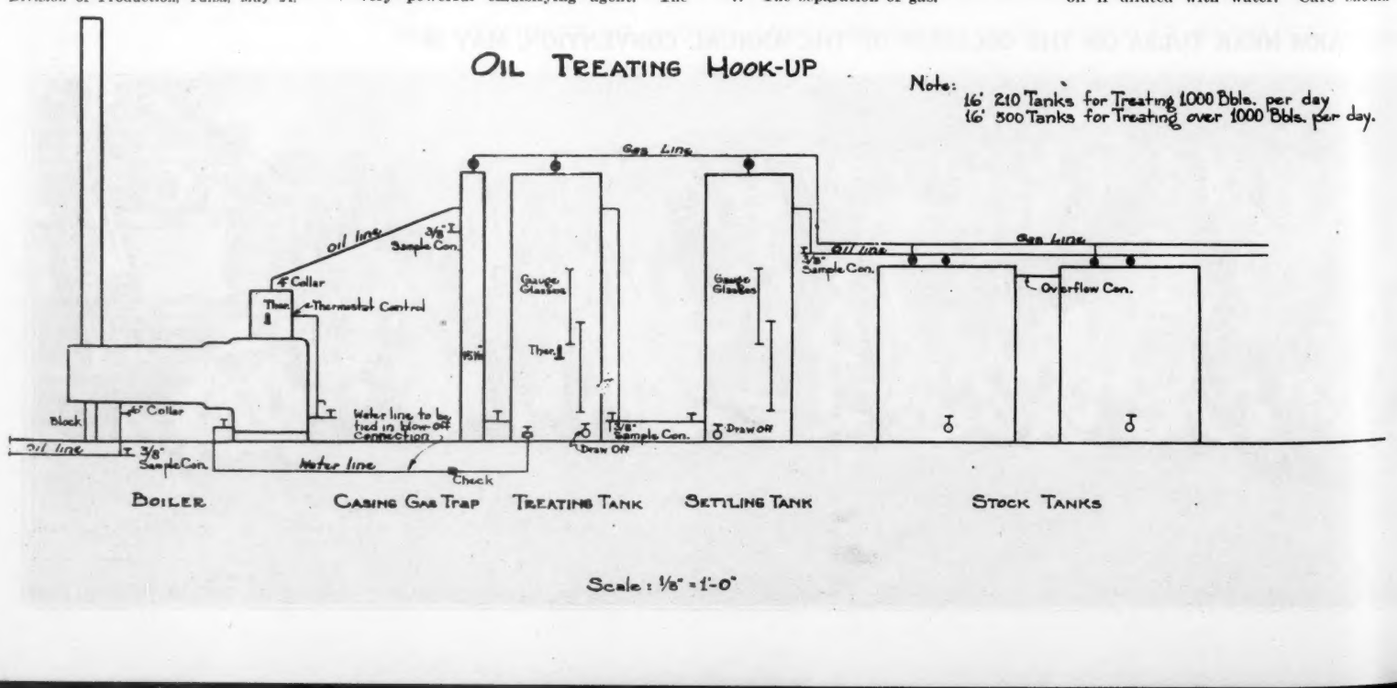
For treating the oil on the surface, there are two types of lubricators in general use. First, the line pressure sight feed lubricator by which the chemical is forced into the line by either water or gas pressure. Second, the force feed lubricator operated either off the beam or by an electric motor.

It is the custom to place the lubricator on the wells cutting most, as these are generally making the most gas and having the most agitation. Some companies, however, use a header system and lubricate the chemical into the oil at the header before passing it through a series of baffles to the heating plant. This header system has the disadvantage of putting an unnecessary pressure upon the lines, which may have a detrimental effect upon the equipment and production.

Distribution of Chemicals

The chemical will have a greater carrying effect and will contact more of the oil if diluted with water. Care should

*Before Mid-Continent District, A.P.I. Division of Production, Tulsa, May 24.



be taken, however, in the selection of the water as chemicals are primarily water softeners and much of their strength would be used in softening excessively hard water.

Use of Heat

In only remote cases is it possible to completely break down an emulsion by the use of chemicals, as heat reduces the viscosity of the oil and establishes a greater differential in the specific gravity of the oil and water, causing the water to drop out and as it expands the water surrounded by the viscous film, which aids the chemical to rupture this film. It is evident that heat is a very necessary and valuable element in the treating of oil. There are two types of heaters in common use. The direct fire heater and the steam coil. The direct fire heater may consist of an oil field boiler put into condition so as to render it fit for service. It is necessary in most cases to weld the flues to prevent leaks. These boilers are fired as they usually are with the exception that the temperature is held much below normal. The temperature varies with local conditions and ranges from 120° and 180° F.

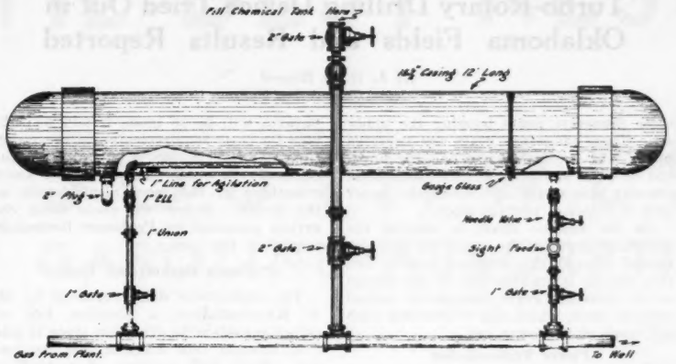
In using steam coils the best practice appears to be to install the coils several feet off the bottom of the tank in order to allow the oil to circulate freely. Heat exchangers are a more efficient type of steam heater and may often be used to advantage.

Tanks

In many cases the most efficient method of chemical introduction and heating may be offset by the improper selection of settling tanks. As a settling tank is the one in which the actual separation of the oil and water takes place, it is of paramount importance that the tank be large enough to allow the oil a sufficient length of time to settle out. Should it be necessary to rush the oil through the settling tanks there is a possibility that bad oil would be carried over into stock tanks. Then in order that the emulsion be further broken up, it would be necessary to add either more heat, more chemical or both. The additional chemical and heat would not only add to the operating cost, but the high temperature would have a detrimental effect upon the gravity and volume. In lieu of this, it is apparent that extreme care should be exercised in the selection of the settling tank.

Plant Construction

In planning a treating plant it must be borne in mind that although the main objective is to reduce the emulsion to pipe line oil, there are other factors that should be considered.



HIGH PRESSURE CHEMICAL LUBRICATOR FOR USE WITH DOWN THE HOLE METHOD

A typical treating plant consists of one or more lubricators, either force or line pressure feed, placed at the most advantageous position. A heater, usually an old boiler, is connected with the intake placed on the bottom of the stack end and hot oil outlet in the dome. The boiler should be placed on a little lower level than the treating tank in order to prevent the collection of gas pockets in the line with the subsequent surging of oil in the tank and to aid water circulation. From the heating plant the oil should be introduced into the tanks through either an inside or outside flume. These flumes should be constructed so as to make it possible to take the gas off the top, and so as to evenly distribute the oil in the tanks. The amount of salt water carried in the tank varies with local conditions. Fresh water tends to dilute the chemical, giving more contact with the oil, and salt water has a chemical action on some emulsions that aids in rupturing the film. The next, or settling tank, as has already been stated, should be of sufficient size to allow the water to settle out and should also have an inside flume to prevent agitation. A pump connected to the bottom of the tanks will prove beneficial in recovering oil from basic sediment, and also makes it possible to recirculate any bad oil that for some reason may have reached the stock tank.

On leases where the production is small enough to permit, welded treating and stock tanks are the most desirable. With welded tanks, it is possible to hold up to 5 pounds pressure, thereby preventing the escape of the volatile vapors which has marked effect on the gravity.

In small production some companies are using a joint of 15 or 20-inch casing with welded flues. These, while they may serve the purpose, appear to be rather inefficient, much of the heat going out through the flues.

Regardless of the type of fire heater it

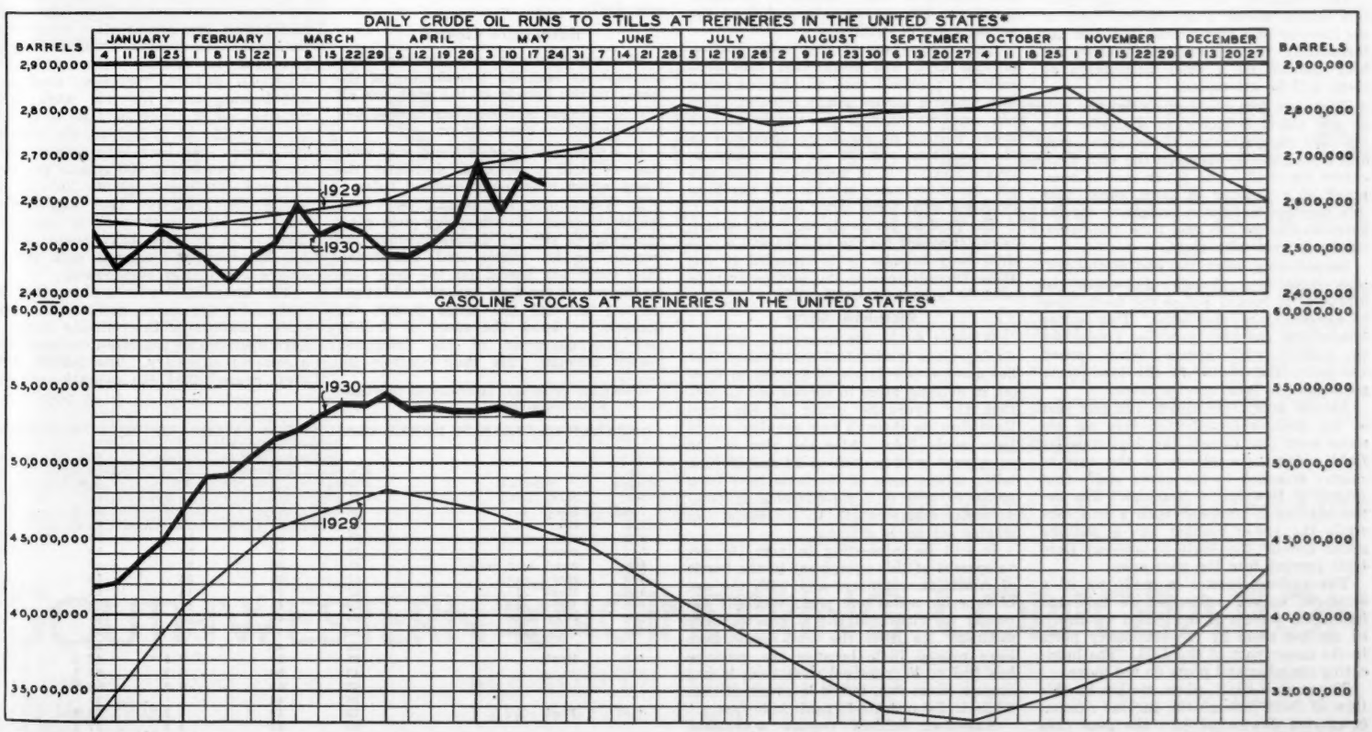
(Continued on Page 140)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks in barrels—for the week ended May 24:

	Week ending May 24				Week ending May 17				Week ending January 4			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	471,287	9,033,000	7,348,000	100.0	470,571	9,090,000	7,048,000	100.0	454,857	5,998,000	7,431,000
Appalachian	91.0	97,714	1,828,000	776,000	89.1	95,000	1,783,000	823,000	91.6	75,571	1,282,000	895,000
Indiana, Illinois, Kentucky	91.5	326,857	8,391,000	3,671,000	99.5	316,714	8,513,000	3,426,000	98.6	289,800	5,483,000	3,505,000
Oklahoma, Kansas, Missouri	89.8	317,287	4,753,000	4,222,000	89.8	311,432	4,536,000	4,164,000	87.7	263,428	3,604,000	3,277,000
Texas	90.8	592,571	7,270,000	10,547,000	90.8	635,287	7,940,000	10,482,000	90.7	539,857	6,590,000	13,757,000
Louisiana and Arkansas	96.8	173,286	2,577,000	1,885,000	96.8	174,000	2,541,000	1,878,000	96.8	160,000	2,161,000	4,499,000
Rocky Mountain	93 6	59,143	2,812,000	1,128,000	93.6	64,000	2,800,000	1,102,000	93.3	41,614	2,273,000	973,000
California	99 3	549,286	15,818,000	107,986,000	99.3	578,714	16,117,000	108,081,000	99.3	642,857	14,826,000	109,770,000
Total United States	95.7	2,587,431	52,482,000	137,563,000	95.7	2,645,718	53,320,000	137,004,000	95.4	2,468,285	42,217,000	144,017,000
Texas Gulf Coast	100.0	440,000	6,105,000	7,755,000	100.0	474,000	6,814,000	7,678,000	100.0	429,585	5,579,000	10,792,000
Louisiana Gulf Coast	100.0	12,429	2,182,000	1,009,000	100.0	119,143	2,149,000	1,014,000	100.0	108,514	1,877,000	3,818,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are included in above tables.

Russian Drill Tested in Oklahoma

Turbo-Rotary Drilling Device Tried Out in Oklahoma Fields and Results Reported

By L. G. E. Bignell
Petroleum Engineering Editor

In the October 24, 1929, issue of The Oil and Gas Journal, page 40, there was an article describing in a general way a new type of drilling equipment invented by M. A. Kapelushnihoff, a Russian engineer, that created a considerable interest among petroleum, mechanical and production engineers in this country and The Oil and Gas Journal is now able to present a more detailed description of this piece of apparatus together with some of the results obtained in actual drilling in several wells in this country.

The description of the tests has been prepared for The Oil and Gas Journal by Prof. R. C. Beckstrom, Dean of the Engineering School at the University of Tulsa, who will return to Russia in June for an extended visit to act as consulting engineer for the Soviet Government. His data have been secured direct from the inventor who is still in this country but the description of the drill has been secured from engineers who have had opportunity of examining it abroad.

The cut which accompanies this article shows a vertical cross section of this machine as it was originally built and tested, but it is understood several changes have been made in details since those tests developed certain weak places in the apparatus.

This drill was on display at the International Petroleum Exposition held in Tulsa, October 5 to 12, 1929, and as it was not opened so that the internal mechanism could be examined due to the status of application for patent at that time, visitors were able to see only a steel shell about 6 feet long 9 inches diameter.

Generalized View

The sectional drawing accompanying this article shows a generalized view of the interior of a turbo-rotor drill but unfortunately the various parts have not been labeled so a brief description of them will be attempted.

There are two cases or shells; the outer one about 8 inches in diameter has the drill pipe attached to its upper end, and through this drill pipe the mud fluid enters the drill. The inner case is composed of a number of short shells that join together to form a protection for the gears and keeps the mud fluid from coming in contact with them.

Immediately below the end of the drill pipe there is a chamber in which the lubricant is packed before the mechanism is lowered into the hole. This upper lubricating chamber provides grease for the turbine, while grease packed around the gears and shafts in the lower case performs the same service there.

As the mud fluid enters the top part of the drill it is deflected into an annular port that directs this high velocity fluid against the blades of the turbine runner attached to the upper shaft that rotates in two sets of bearings. The upper bearing is provided with a ball race while the lower bearing has a packing gland around the shaft to prevent fluid from passing into the gear case.

The turbine runner is made up of a series of curved vanes set to take the impinging stream of mud fluid as directed against them by the stationary ports in the upper part of the drill. The lubricating chamber and ports do not move.

The runner shaft, given motion by this flow of fluid through the turbine runner, is carried downward into the gear case and its lower end is equipped with gear teeth which mesh with the teeth in the three planetary gears forming the upper set. These planetary gears are mounted upon short vertical shafts and the lower end of these shafts terminates in a solid circular base which also forms the upper part of a second vertical shaft.

As the turbine shaft is rotated the planetary gears in the upper set are also turned around this common center and this motion is transmitted to the second set of planetary gears through the second vertical shaft, which also is provided with cut teeth at its lower end.

Power Transmission

This form of power transmission and speed reduction can be multiplied as many times as necessary to reduce the speed of the turbine runner to the speed required at the drill bit. Each set of planetary gears with its drive shaft forms a section in the gear case and is fully enclosed.

The vertical shafts carrying the lower set of planetary gears terminate in the upper part of the large vertical shaft which in turn is terminated in a solid bearing in the lower portion of the gear case. This shaft is provided with a large nut, clearly shown in the sketch, which when tightened assembles this lower member of the transmission mechanism into a unit, and in this unit there are two ball races which permits this shaft to rotate freely.

By this method of assembly the gear case, with its internal mechanism, is formed into a long vertical member, and the lower portion of this case is beveled and rests in supporting brackets which are attached to a ring that fits between the lower part of the outer case of the drill and the nipple that is screwed into place to close the end of the drill case.

The lowest bearing in the gear case, the one in which the last vertical power shaft terminates, is attached, by means of an open frame, to the drill bit socket and imparts a rotary motion to it, which turns the bit in the hole and does the actual work of drilling.

An examination of the lower portion of this drill will show that this drill socket is provided with an annular space into which a bushed pin is screwed. This pin supports part of the weight of this lower portion of the mechanism and at the same time permits the drill socket to rotate freely. It is understood that this pin has given some trouble and has been replaced with some other device.

The drill socket as shown in the sketch is not threaded for the tapered end of the drill body because it is intended to cut these threads to suit the particular type of drill to be used on the job.

Ingenious Drive

Without doubt the apparatus presents an ingenious mechanical contrivance that has given a fair degree of success in Russia in drilling holes in formations so soft that the hydraulic effect of the mud fluid flowing through any opening would have made hole. Also the size of the equipment used in drilling 24 and 36-inch holes, where most of the tests have been made, permits of a considerable addition of metal and strength to withstand the strains set up in drilling.

It will be interesting to note the development of this equipment in the hands of American engineers and with the use of superior metal and parts specially designed to withstand the strains of deep drilling. As it is the tests made here have proved little because the machine has had to be repaired each time it has made a short run, but it is admitted that while it did operate it made hole fast.

American drillers require equipment that will stand up under hard use and it is possible that at some time this apparatus will be so made it will be suitable for their requirements—in the meantime this information is passed on to the engineers in order that they may know something of the mechanical details of the device. Below we quote from the article prepared by Professor Beckstrom regarding the tests:

Professor Beckstrom's Report*

The turbo-rotor drill, invented by M. A. Kapelushnikov, a Russian, has received considerable attention since it was first brought into America last September. This drill consists of a turbine, gears for the transmission of power and a shaft on which is attached any of the various types of bits used in rotary drilling. These parts are inclosed in a container and attached to the lower end of the drill pipe, which is used for the circulation of the mud fluid and does not rotate in the hole. The mud fluid is pumped into the drill pipe, passes into the turbine or hydraulic motor and acts as the power driving the motor. The motor transmits this power through the gears to the shaft to which the bit is fastened.

Drilling is done without any rotation of the drill pipe whatever as all working parts are in the bottom of the hole. These working parts are lubricated by a device placed near the motor.

The drill was developed in the Baku, Russia, oil fields and has been used for the past five years in drilling in the regular development of the field. During 1926-27 13,500 feet of drilling was completed by the turbine method; in 1927-28 22,000 feet, and in 1928-29, 40,000 feet were drilled.

During the development of the turbine drill many experiments were made on the rotary system. The results of these experiments were used in making improvements both in the rotary drill and in the development of this new bottom hole drill.

Advantages Claimed

The experimental and drilling data demonstrate that the transferring of the motor to the bottom of the well has all the advantages of the rotary system and many additional advantages.

1. Drilling is done without any rotation of drill pipe, thus decreases the losses which accompany crooked holes.

2. Vibrations are transmitted from the bit through the stationary drill pipe, changing as the bit passes through the various sands, shales and limestones. Pipe tongs are placed on the drill pipe at the top of the hole and the vibrations passing through the tongs permit the operator to know the speed of drilling and the character of the formation passed through. He thus controls the weight placed on the bit and the pressure of the pump to the turbine.

3. The absence of any rotation of the drill pipe eliminates the energy necessary in the rotary system. This is illustrated by data in tabulation.

4. The drill pipe is used to circulate the mud fluid and need not be as heavy as the drill pipe used in rotary drilling.

5. There is no machinery necessary for rotating the drill pipe. This decreases the cost of operation and equipment.

6. The simplicity of the work and the absence of the noise of the rotary table, as well as increased safety to the men are added advantages.

7. The work of the hydraulic motor in the well does not depend upon the depth of the well but depends only upon the difference of the weights between the columns of water in the well.

The data given on the turbo-rotor drill was obtained in the Russian oil fields, where conditions are different from those in the United States.

Tests in Mid-Continent

In the Mid-Continent Field during the past winter, Mr. Kapelushnikov conducted a series of experiments with the turbo-rotor drill in drilling wells of The Texas Company and the Magnolia Petroleum Co. The apparatus available for these experiments was of the average type, made of somewhat inferior materials and adapted to ordinary conditions in the Baku fields of the United Socialistic Soviet Republic, that is, for an average depth not exceeding 1,800 to 2,000 feet in comparatively soft formations at a working pressure of 200 to 250 pounds, with a mud solution of about 200 gallons per minute.

The conditions encountered in Mid-Continent oil fields proved to be much more difficult—the pressures reached 650 to 700 pounds, the formations were very hard, with cracks and separations of layers having a tendency to form slides in the well, and stones often collected at the tool, considerable difficulty being presented in drilling them out. The American drillers, therefore, used only self-cleaning tools for this work; and, for each set of cones, only 50 to 60 feet of well could be drilled on the average. The pumps used here have a capacity of not less than 400 to 450 gallons per minute and the power plants have a capacity about 25 per cent higher than those in other corresponding American fields, that is, they have about 300 to 340 horsepower, compared with the ordinary 240 to 270 horsepower.

The foregoing tends to show that the turbo-rotor apparatus, designed for much easier conditions, theoretically ought to have operated in the Mid-Continent with a lowered efficiency. The results, however, proved that the operation of this

(Continued on Page 102)

*Compiled from full information furnished by Mr. Kapelushnikov.

COMPARATIVE TABLE OF POWER CONSUMPTION BY ROTARY DRILLING IN U.S.S.R.

Depth in Meters	Strata—	R.p.m. of table	Average power consumed in drilling KW	No Load KW	Efficiency KW	Moment in Kg/meter
455	Hard sand	71	56.5	15.5	41	527
706.5	Sand	48	45.3	12	33.3	625
62	Clay	71	52.5	12	40.5	510
371	Clay sand	81	38	18	20	222
544	Rock	83	30	20	10	108
603	Sand and rock	81	28	21	7	78
699	Hard sand	81	35	23	12	133
446	Rock	67	29	15	24	323
348.3	Hard sand	70	40	14	26	336
161	Clay sand	68	48	12	36	480
163	Clay sand	61	32	11	21	311
		28	42	7	35	1,120
349	Rock	35	50	7.5	42.5	1,090
		42	60	8.2	51.8	1,110
		47	62	9.3	52.7	1,125
		28	48	7	41	1,325
349	Rock	42	60	8.2	51.8	1,115
		47	62	9.3	52.7	1,010
		44	20	8	12	246
163	Rock	46	25	8.5	16.5	324
		52	40	9	31	536

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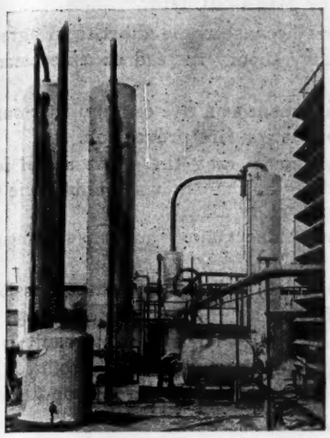

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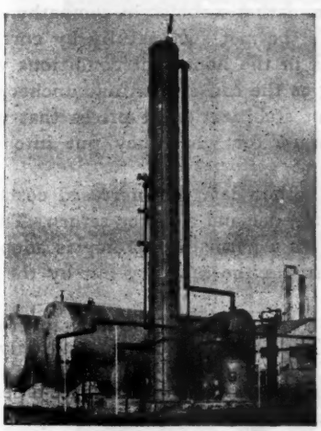

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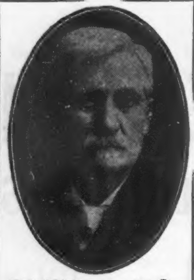

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A DANGEROUS HABIT OF MIND

The oil industry is the most optimistic on earth.

It came by it naturally because the pioneers in the business were forever seeking the pot of gold at the end of the rainbow and the habit of mind has survived in their successors.

So far as it gives them undaunted courage to face obstacles, to refuse to be cast down by disappointments, it is a good thing. But it has its drawbacks when it leads them to underestimate actual conditions and to take a temporary rather than the long view of an existing situation.

This is about what has happened in the curtailment program.

With this invincible optimism these agreements have been made for 30 to 90-day periods as if the clouds would be gone in that time, regardless of the plain facts visible in mounting storage and potential production.

The results of this attitude of mind are seen in the production curve for the year, a succession of ups and downs, with the present precarious position in the crude and refined markets presaging another crisis.

Of course it can be said for these short-time curtailment programs that at the outset they were the best that could be obtained. It was hard enough to get producers to agree to curtail even for a month or two. But in the past year and a half there has been sufficient experience to show everybody that these emergency agreements were futile in dealing effectively with conditions that so far as can be foreseen are anything but temporary.

Another difficulty has been that as soon as a curtailment program was being worked out in some area and production was coming down the downward trend would encourage producers in some other section to new activity and the temporary gain in curtailment would be lost almost before it was established.

In fact that has been the almost invariable outcome of each period of agreement. The bringing down of overproduction has been taken as a sign that the danger was over and we were no sooner congratulating ourselves on the success of curtailment than we were facing another rise in the production curve and the necessity for the same effort all over again.

The possibility of a 200,000-bbl. daily production in the Hobbs area in New Mexico within four months shows how foolish it is to think that we can get out of the woods by four or nine weeks of curtailment.

The trouble has been in thinking of curtailment only as a momentary check on some dangerous area. It has not been studied as a definite policy to stabilize the industry as a whole.

Consequently there are inquiries whether curtailment has been satisfactory in coping with the situation. To this it can be said that the curtailment movement was all that saved the industry from chaos which would undoubtedly have resulted if no attempts had been made to hold back current production in the flush producing areas in California, Texas and the Mid-Continent.

It has not secured stabilization because these short-term agreements were based on the emergency theory instead of a necessary permanent policy.

We have been thinking of curtailment as a fire extinguisher only when we ought to have been using it for fire prevention.

Every time the overproduction alarm rang there was a call for a curtailment agreement, but nothing permanent was being done to prevent further overproduction and more alarms.

The effect has been a continuing uncertainty and unsettlement, which has been reflected in the markets.

The buying trade, seeing these ups and downs, senses possible opportunities and the seller, affected by the same uncertainty, is in no shape to combat such an attitude. The common result is a condition like the present where this insecurity has produced a market reaction which is not at all justified by actual conditions, unsatisfactory though they are.

It is foolish to expect any permanent improvement in such circumstances. It is true that there are many favorable factors. Most of the producers are co-operating admirably and showing a disposition to do whatever is necessary. Yet conditions are not what they should be from the standpoint of either the crude oil producer or of the refiner and marketer.

The industry is entering the season of maximum consumption with low prices and with no favorable outlook for the remainder of the year unless some definite and settled policy is mapped out and followed rigidly.

These 30 to 90-day curtailments will only get us through the summer months and perhaps not that.

Everybody knows we have too much crude in storage, that fuel oil stocks are high. Even if we accept the present surplus gasoline as no great burden in visible days' supply, which is the view of some, we cannot get away from the fact that a weak crude market is a menace to the refined market.

The crude market is weak because of topheavy stocks of crude and fuel oil, potential raw material for cheap gasoline.

When overproduction of crude adds to that supply of raw material it endangers the gasoline price structure still more and as the gasoline market totters the crude market wobbles in sympathy.

This is a situation that cannot be met successfully by curtailment for a few weeks or months in the hope that conditions will clear. They cannot clear so long as the causes continue unchecked.

The industry needs permanent stabilization at prices that will allow every division a fair reward for what they put into the business.

As President Reeser said the other day, the increased costs of production, such as deeper drilling, demand a better return. There is no chance of getting that unless a permanent policy is adopted and carried out, not by a majority in the industry but by the industry at large.

These spasms of curtailment followed by rebounding overproduction simply get us nowhere. That sort of thing can end only in further price reductions.

It is all right to be an optimist—in reason. Nobody likes a pessimist. But closing one's eyes to uncomfortable facts is not optimism —it's just plain downright foolishness.

The oil industry is entitled to better returns on its products, raw and refined. It cannot hope to get them so long as it turns out more of either than the market can absorb. Too much crude means distress gasoline and distress gasoline means cheap crude.

There is just one way to stop that and that is a curtailment program that is consistently carried out as a definite policy of keeping supply in line with demand, not this month or next alone, but all the time.

THE TESTIMONY OF TIME

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Natural Gasoline as Aviation Fuel

Manufacturers in Position to Capitalize on Innate Advantages With Rationalization of Official Specifications

By R. C. Alden and Billy Parker
Phillips Petroleum Co.*

Aviation natural gasoline is an accepted commodity in its market. A recent, hastily conducted, survey made by the secretary of the Natural Gasoline Association showed that members of this association had sold a total of 13,000,000 gallons of aviation natural gasoline during 1929. Generously discounting this figure because of probable use of a portion by motorists, there still remains a considerable volume used by airplanes. It is estimated that at least 20 per cent of the aviation gasoline consumed commercially in 1929 was aviation natural gasoline.

This is a remarkable record for a new product and especially so when it is recalled that aviation natural gasoline fails to meet accepted specifications. It is an outlaw product from the viewpoint of official specifications.

Probably this matter of official specifications is the most serious problem confronting the marketers of aviation natural gasoline. To the manufacturer of airplanes or the operator of commercial air lines, the quality of the fuel used is only one of many urgent problems. They are only too glad to delegate the responsibility in the matter to such government agencies as are studying the qualities of gasoline. If aviation natural gasoline does not meet the published specifications, this influential class of buyer does not usually have the time, inclination or facilities to investigate the claims advanced.

The existing specifications for aviation gasoline, domestic and fighting grades, were officially adopted by the Federal Specifications Board on February 3, 1922, more than eight years ago. In the revision made by this body last September

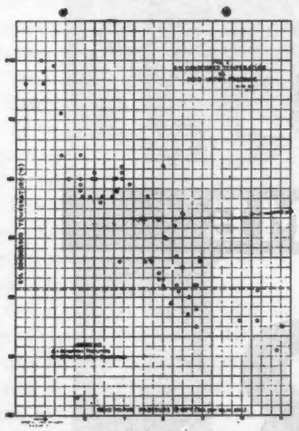


Figure 2—5% condensed temperature vs. Reid vapor pressure.

these old standards for aviation gasolines were permitted to stand.

Present Specifications

Table 1 shows several existing official Engler distillation specifications for aviation gasolines as compared with a typical aviation natural gasoline. It is to be noted that, except for the initial portions of the distillation curve, aviation natural gasoline meets the existing requirements with a wide margin to spare. It is due primarily to the excellent operating qualities imparted by the low midportion of the distillation curve of aviation natural gasoline that the product has been so successful in reaching its markets in the face of adverse front end distillation specifications. Whereas existing standards call for a minimum of 122° F. at 5 per cent condensed in the Engler distillation, aviation natural gasoline is generally marketed with a 5 per cent condensed temperature of about 114° F.

*Annual meeting, Natural Gasoline Association of America, Tulsa, May 20-22.

TABLE 1—EXISTING OFFICIAL ENGLER DISTILLATION SPECIFICATIONS FOR AVIATION GASOLINES AS COMPARED WITH TYPICAL AVIATION NATURAL GASOLINE

	D.A.G. Max.	D.A.G. Min.	F.A.G. Max.	F.A.G. Min.	F.A.G. A.K. Max.	F.A.G. A.K. Min.	Aviation natural
5% condensed	167	122	149	122	...	...	115
10% evaporated	...	...	...	...	161.6	143.6	117
50% condensed	221	None	203	None	203	None	147
90% condensed	311	None	257	None	257	None	234
96% condensed	347	None	302	None	302	None	278
Endpoint	374	None	329	None	329	None	324
Distillation loss	2.0	None	2.0	None	2.0	None	1.2
Distillation recovery	None	96.0	None	96.0	None	96.0	98.0

This difference of 8° at the 5 per cent condensed temperature does not seem a serious obstacle at first glance. However, the most important consideration in processing natural gasoline to meet the existing official specification is that the necessary reduction in pentane content reduces the antiknock rating of the finished product.

Figure 1 is a replot of the data contained in an earlier article on aviation natural gasoline. The figure makes it possible to correlate the relative effects of volatility specifications as they exist,

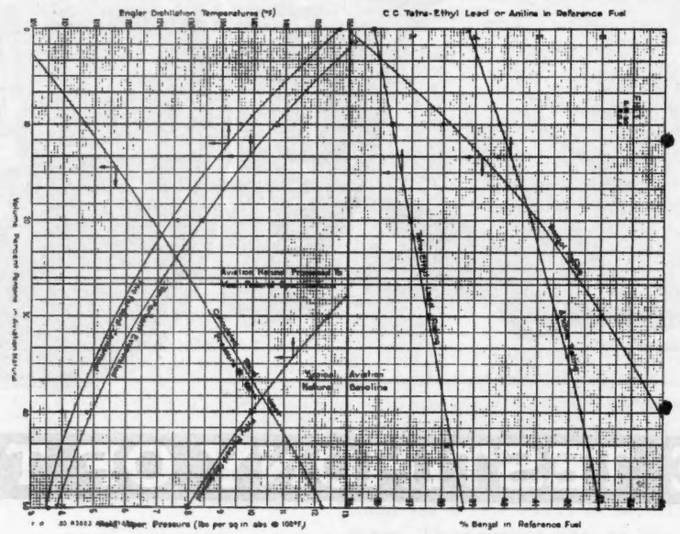


Figure 1—Correlation of the relative effects of volatility specifications.

or as they have been suggested from time to time. For the particular sample shown in Figure 1, meeting the existing requirement of 122° F. at 5 per cent condensed would effect the following changes:

Antiknock Rating—Per cent aniline from 5.55 to 5.15; cubic centimeters tetraethyl lead from 3.50 to 3.20; per cent benzol equivalent from 44.3 to 42.3; 10 per cent evaporated temperature from 117° F. to 126° F.; 50 per cent condensed temperature from 144° F. to 155° F.; Reid vapor pressure at 100° F. from 10.0 to 8.1 pounds per square inch absolute; pentane content from 36.7 to 26 per cent.

In view of the fact that antiknock qualities are essential in aviation gasolines it is evident that manufacturers should not be required to meet a maximum volatility requirement that impairs the antiknock rating of the product, unless that maximum volatility specification is soundly based on engineering data.

In some quarters it has been suggested that a maximum front end volatility specification of 10 per cent evaporated at 122° F. would be a sound requirement. An examination of Figure 1 shows that as far as aviation natural gasoline the front end is not sufficiently sensitive to precisely evaluate the effect of small percentages of light components on vapor-locking tendencies.

2. The vapor pressure of gasolines is the most precise single measure of vapor-locking tendencies.

In view of these findings it seems entirely logical to proceed with a vapor pressure specification for aviation gasolines. The question then arises as to the proper limitations. Possibly a good way of arriving at an estimate of the probable safe limits is to compare the old specification with the bases which are being considered for future revision.

Figure 2 shows a comparison of the 5 per cent condensed temperature with the Reid vapor pressure for aviation gasolines. The samples of aviation gasolines shown in Figure 2 were collected from widely scattered airports during the past five months. It is to be noted that the maximum and minimum trends indicate a range in Reid vapor pressure of from 7.8 to 10.5 pounds per square inch at a 5 per cent condensed temperature of 122° F. This suggests the possibility that a maximum limit of approximately 10.5 pounds per square inch would prove adequate.

Figure 3 shows a comparison of the 5 per cent condensed temperatures and the 10 per cent evaporated temperatures for the same samples shown in Figure 2. In as much as the 10 per cent evaporated temperature is conceded to be unreliable for the purpose intended, no effort will be made here to interpret Figure 3. It is interesting to observe, however, from the two figures just described that other aviation gasolines than the natural grade are infringing the old standard.

Figure 4 shows a comparison of the 10 per cent evaporated temperature with the Reid vapor pressure for the samples shown in Figures 2 and 3. The inability of the 10 per cent evaporated temperature to evaluate the vapor pressure of the gasoline is clearly demonstrated.

Needless to say, much thought and effort are being devoted to this subject. The research program of the association

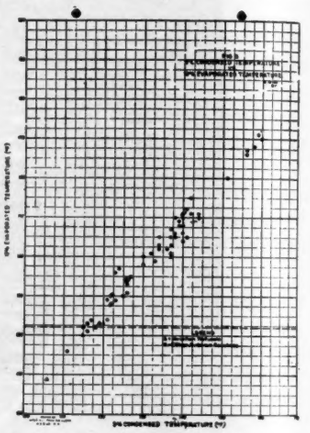


Figure 3—5% condensed temperature vs. 10% evaporated temperature.

contemplates a thorough study of the temperatures occurring in fuel systems under all conditions of flight. The United States Bureau of Standards is assiduously investigating all the factors involved, even to the effect of weathering in the carburetor bowl. It is to be hoped that this work will lead in the near future to a rational volatility specification for aviation gasoline.

New Specification

The most recent official specification covering aviation gasoline is that ad-

(Continued on Page 142)

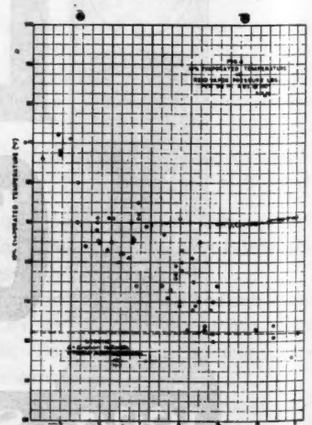
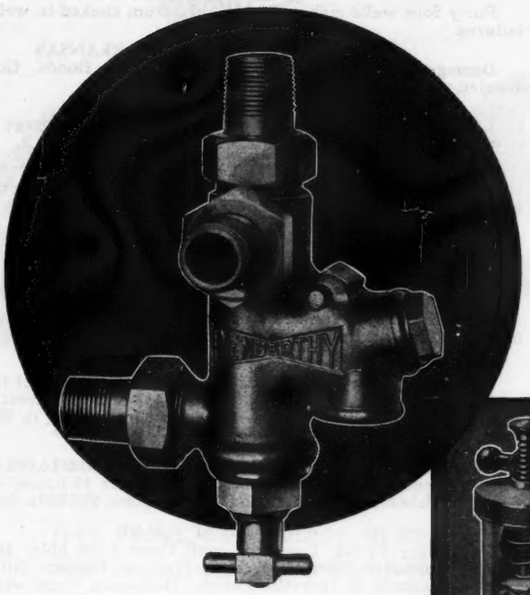


Figure 4—10% evaporated temperature vs. Reid vapor pressure. Lbs. per square inch abs. @ 100°.



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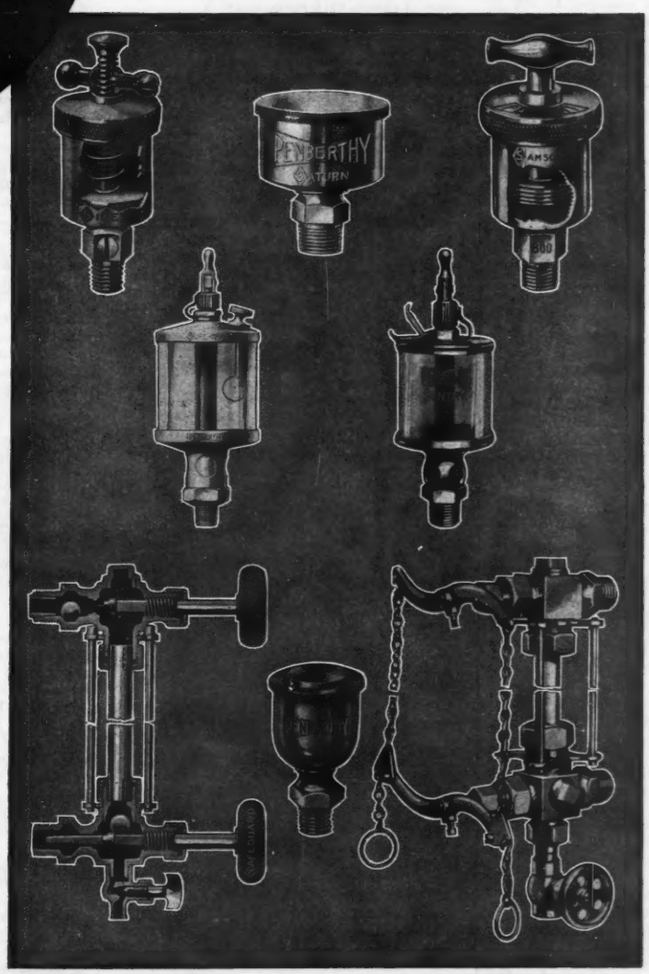

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OIL AND GAS PIPE LINE MAPS AVAILABLE JUNE 5

The Oil and Gas Journal's large wall maps showing all oil and natural gas trunk pipe lines in the United States will be published as an insert with the Annual Pipe Line Number, June 5. Because of the great demand for these maps, a limited number of extra copies will be printed this year on extra heavy bond paper, and unfolded, will be available at a cost price, including mailing tube and postage, of 50 cents each.

Companies desiring large numbers of these maps for distribution among customers or stockholders, should notify The Oil and Gas Journal as quickly as possible of the number desired as all requests will be taken care of in the order received.

DEATH OF HARRY W. STALEY

KNAPP CREEK, N. Y., May 24.—Harry W. Staley, for 50 years a resident of this portion of the Bradford oil field, died at his home here after a long illness. He had been engaged in the oil business since his youth and at the time of his death was one of the leading operators in this district.

THE OIL MAN'S CALENDAR

May 30—Indianapolis, Ind., annual 500-mile automobile race, Speedway.

June 2—Washington, D. C., Conference on Greasing Equipment, A.P.I., and Conference Committee on Weights and Tolerances.

June 3-6—Washington, D. C., Twenty-third National Conference on Weights and Measures, United States Bureau of Standards.

June 4—Norman, Okla., Opening of Petroleum Engineering Field Course, University of Oklahoma.

June 4-6—Detroit, Mich., American Institute of Chemical Engineers, Book-Cadillac Hotel.

June 5—New York, annual meeting, National Automobile Chamber of Commerce.

June 12-13—Charleston, W. Va., annual convention, West Virginia Oil Marketers Association, Daniel Boone Hotel.

June 13-14—State College, Pa., Oil, Power and Gas Divisions, American Society of Mechanical Engineers.

June 16-25—Berlin, Germany, World Power Conference.

June 18-25—Atlantic City, N. J., Mechanical Division, American Railway Association, Auditorium.

June 23-26 — San Francisco, Calif., convention, American Railway Association.

June 23-27—Atlantic City, N. J., annual meeting, American Society for Testing Materials.

August 4-9—New York, International Exposition of American Import Trade, Grand Central Palace.

September 2-4—Toronto, Ontario, North American Gas Tax Conference, King Edward Hotel

September 8-12 — Cincinnati, Ohio, Eightieth meeting, American Chemical Society, Hotel Gibson.

September 17-19—Atlantic City, N. J., National Petroleum Association, Hotel Traymore.

September 29-October 4—Pittsburgh, Pa., petroleum section, National Safety Council.

October 4-11—Tulsa, Okla., International Petroleum Exposition and Congress.

October 6-11—Washington, D. C., Sixth International Road Congress.

October 14-16 — Kansas City, Mo., convention, Big Four State Jobbers.

November 10-13—Chicago, Eleventh annual meeting, American Petroleum Institute, Stevens Hotel.

Automatic Station Will Be Permanent Experimental Plant

The interest which the automatic pump station has aroused in the petroleum industry was indicated when W. G. Heltzel, chairman of the executive committee of the American Society of Mechanical Engineers, Petroleum Division, announced to officials of the International Petroleum Exposition and Congress that $90,000 will be spent this year on the automatic station on the oil show grounds at Tulsa. It will be put into operation in June and will be maintained as an experimental station in automatic pumping.

The station, which will be exhibited in the 1930 exposition, October 4-11, will be several times larger than that displayed in 1929, and will show a number of important improvements, according to Chairman Heltzel. A third tank will be added. The tanks will be interesting exhibits in themselves as they will present the latest in the floating roof line and show what the industry has done in the fight against corrosion.

The A.S.M.E. station is to be a permanent part of the exposition plant, and experimental work for further improvement will be carried on there throughout the year, Mr. Heltzel said.

Work is now under way on the station with J. N. Hunter, Gulf Pipe Line Co., in charge as general chairman. Subchairmen are: C. F. Guinn, Tidal Pipe Line Co., buildings; J. B. McMahon, Foxboro Co., instruments; J. B. Ford, Chapman Valve Co., valves; W. H. Elliott, Maloney Tank Sales Co., tanks and grounds; J. H. Wiggins, Wiggins Floating Roof Tank Co., tanks; William Parkerson, Public Service Co. of Oklahoma, W. H. Stueve, Oklahoma Gas & Electric Co., and Mr. Chapeleir, Oklahoma Power & Water Works, electric power; W. C. McGraw, Westinghouse Electric & Manufacturing Co., and R. F. Riddle, Westinghouse Co., supervisory control.

A. N. Horne, Empire Pipe Line Co., W. D. Smith, Worthington Machinery Corp. of Oklahoma, W. R. Reed, Sinclair Pipe Line Co., J. K. McGoldrick, Texas Pipe Line Co., and F. E. Warterfield, Oklahoma Pipe Line Co., will be in charge of piping and pumps.

T. D. Williamson, Petroleum Electric Co., W. T. Bulla, Empire Pipe Line Co., W. C. Raymond, Texas-Empire Pipe Line Co., W. H. Steele, Tidal Pipe Line Co., Mr. Gulleson, Prairie Oil & Gas Co., and D. R. Welch, Sinclair Pipe Line Co., will be in charge of electric equipment and installation.

Late Fields

LOUISIANA-ARKANSAS

SHREVEPORT, La., May 26.—High water in the Red River is slowly spreading through Red River Parish field in Louisiana, necessitating many wells being shut down. No check of the district has been made and how many wells are off is not known at this time. Gulf Refining Co. has 25 off, indicating that probably 100 or more will be shut down before the flood recedes. The flood in North Caddo Parish, Louisiana, is slowly receding as the crest moves down Red River. Gulf Refining Co. had 214 wells in Caddo Lake shut down; Magnolia Petroleum Co. and The Texas Company 50 each and numerous smaller operators whose wells were shut down will bring the total in Caddo to approximately 400.

GULF COAST

HOUSTON, Tex., May 27.—One of the best producers so far completed at Port Barre, St. Landry Parish, Louisiana, is The Texas Company's No. 7 Botany Bay. This well came in flowing at the rate of 1,000 bbls. daily on a half-inch choke. Failing to clean itself, the well was put on a five-eighths inch choke which was followed by a decline in pressure with an accompanying increase in oil production to 2,000 bbls. daily. The well is in a sandy shale at a total depth of 3,359 feet. Houtex Oil Co.'s No. 1 Wilhite, deep test on the south side of North Dayton, has been completed flowing an estimated 2,400 bbls. of oil daily from a sand and shale at 4,770-97 feet.

WEST TEXAS

FORT WORTH, Tex., May 27.—Texas-Cosden's No. 1 Connell, Section 1, Block B-16, Ector County, is drilling ahead at 3,550 feet with no increase in oil. First oil 3,475 feet with an increase at 3,485 feet and 3,495 feet. This is a 1-mile extension well.

KANSAS

The Magnolia Petroleum Co. has started its first test in Sedgwick County, since taking over the oil-producing properties and leases of the White Eagle Oil & Refining Co. The location is about a half mile south of production in the Valley Center Pool, in the NW cor. NE SW, Section 18-26-1, Sedgwick County.

Gibson Oil Co. and others' No. 1 Mueller, C SW, Section 11-23-14w, a wildcat in Stafford County, has reached a total depth of 4,500 feet, with nothing showing.

The completion of 16 oil wells during the week added 6,550 bbls. to the Kansas' daily oil production and the seven new gas wells added 84,000,000 feet of gas to the State's total output, for the week ending May 24.

The Gypsy Oil Co. extended the producing area in the Voshell Pool, in McPherson County, a quarter mile north, when its No. 1 Stucky, SE cor. SW SE, Section 33-20-3w, filled up 1,600 feet with oil in one hour. The oil was found in the Wilcox sand at 3,265-79 feet. A production test will be made before the well is drilled deeper to the Silicious lime.

Shell Petroleum Corp.'s No. 4 Ritz, SE cor. SW SW, Section 1-20-2w, McPherson County, found a hole full of water in the Wilcox sand at 3,450-65 feet, and is shut down. It is located in the Ritz Pool.

Gypsy Oil Co.'s No. 1 Hedge, SE cor. NE SE, Section 13-22-2w, Harvey County, wildcat, had Viola at 3,429-33 feet. The test was rigging up standard tools.

OKLAHOMA

Indian Territory Illuminating Oil Co. has bought a lease spread in Oklahoma County from the Reiter-Foster Oil Corp. Seven tracts in Oklahoma County and one in Logan County were included in the transaction. The total consideration was about $50,000. Reiter-Foster Oil Corp. retained a one-quarter interest in all the leases. The tracts were located as follows: NW NE and W half NE NE Section 16-13-1w, N half SE Section 7-13-1w, N half NW Section 36-14-2w, S half NW Section 3-14-1w, N half NE Section 20-14-1w, E half NW Section 34-14-1w, N half SW Section 36-13-2w, all in Oklahoma County, and E half SE Section 28-16-4w, Logan County.

Deep Rock Oil & Refining Co. has purchased the holding of Wilson and others in Section 30-8-8, Seminole County, south of Wewoka, consisting of 192 acres and one producing well, for the reported consideration of $50,000. The producing well is located in the SE cor. SW NE Section 30-8-8, and was completed for 170 bbls. on the swab. Deep Rock Oil & Refining Co. has announced a new loca-

(Continued on Page 143)

High Spots in Field News

SOUTHWEST TEXAS
New Guadalupe County pool likely. Pettus Field well flows 500 bbls.

EAST CENTRAL TEXAS
Forty-four wells making 38,000 bbls. from choked-in wells. Three wildcat failures.

NORTH LOUISIANA-ARKANSAS
Damage of $1,000,000 done in Smackover by floods. Good well in Holly district.

CALIFORNIA
Long Beach holds key to California situation. Storage situation in state in more satisfactory condition.

NORTH TEXAS AND PANHANDLE
Gray County producers swell Panhandle output. Wildcat in Hood County estimated 5,000,000-foot gasser.

ROCKY MOUNTAIN AREA
New pool in Lea County, New Mexico; 9 miles north of Hobbs production, may be part of immense field.

KANSAS
Voshell Pool is extended a quarter mile north by Gypsy Oil Co.'s well in next township north, getting oil from Wilcox sand.

WEST TEXAS
Andrews County holding interest. Western Penn Pool test, Ector County, will extend production a mile. Yates Pool extended west. New activity in Ward County. Crane County wildcat most interesting in West Texas.

OKLAHOMA
Oklahoma City Field extended mile west with 16,000-bbl. well. Second well in Wanette-Asher area made 1,100 bbls. in 16 hours. New well west of South Earlsboro, mile from production, makes 535 bbls. in 14 hours.

GULF COAST
St. Landry Parish, Louisiana, well flows 2,000 bbls. Deep test at North Dayton estimated 2,400 bbls. Deep flank at Barbers Hill extended. Good wildcat producer in Iberville Parish. Hankamer Field widened.

SCORE CARD ON OIL PRODUCTION

Below is shown allotted average daily production in the United States, April to December inclusive, suggested by the Committee on Economics of the Federal Oil Conservation Board, and the actual daily average production during the week ending May 24:

	Allotted bbls.	Actual bbls.	Over bbls.	Under bbls.
California	610,000	617,000	7,000	.....
Oklahoma	655,000	659,560	4,560	.....
Texas	750,000	840,551	90,551	.....
Other fields	480,000	458,958	.....	21,042
Total	2,495,000	2,576,069	102,111	21,042

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Holding Oklahoma Production Down

Steadily Growing Potential Not Permitted to Influence Actual Output. Enormous New Wells in Past Week

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

One of the important events of the week was the news that the Oklahoma oil production was held to about the same level as the previous week. The estimated daily average production for the week ending May 24 was approximately 659,000 bbls. Operators are co-operating to keep the production within requirements. The above figures are remarkable when the large flush production from the Oklahoma City Pool is taken into consideration. Wells with an initial production between 10,000 and 20,000 bbls. are being completed almost every day in that field, and new locations are being made by the dozens. Residences are being moved to make room for derricks in the north end of the pool, within the Oklahoma City limits.

Two new producers which were too large to handle were completed over the week end in the Oklahoma City Pool. Aided by a southeast wind and a strong gas pressure oil was blown hundreds of feet and sprayed a light spray of crude over the residence section of Oklahoma City, and into the heart of the business district.

One of the new wells was the Indian Territory Illuminating Oil Co.'s No. 1 Precure, SE cor., Section 11-11-3w. It blew in estimated at 100,000,000 feet of gas and 10,000 bbls. of oil. It was open only a few minutes and then shut in until another separator could be installed. The well was producing from total depth of 6,523 feet, in Simpson sand.

The other large well completed was Tom Slick Oil Co.'s No. 1 Martin, C S half SE SW, Section 1-11-3w, in the north end of the field. The heavy gas pressure blew mud and oil over the top of the rig for 15 minutes before the fluid was turned into the separators. After flowing for 25 minutes it was shut in. The well made 378 bbls. the first 25 minutes. It is expected to be opened in a day or two for the initial gauge. The same company purchased the holdings of the Arclo Oil Co. which company was part owner of a test drilling in the NE cor. SE SE, Section 11-11-3w, on a 10-acre tract. The test was drilling at 6,430 feet on May 23.

The Tom Slick Oil Co.'s No. 1 Martin, NW cor., Section 13-13-1w, a wildcat on the east side of Oklahoma County, near Jones, was rigging up to test the horizon at a total depth of 6,625 feet. It found the Wilcox sand to be dry and was plugged back. The total depth was 6,971 feet.

Status of Oklahoma City

A survey of the Oklahoma City Pool shows that 240 wells have been completed to date with an estimated potential of 1,250,000 bbls. Some express the opinion that it is one-third of total amount of wells that may be drilled and found productive in the pool. Some believe that after one-third of the tests in a pool have been drilled the peak in production is reached, which may or may not be the case at Oklahoma City. Others express the opinion that the peak in potential production in the Oklahoma City Field may be reached in August of this year.

The enormous gas pressure is declining, especially in the Silicious lime wells, and in some of the completed Simpson and Wilcox sand wells. The initial production of the new wells now being completed is not as large as those that were completed six months ago. The decline in the initial and in the wells already completed has been keeping the potential production about the same for the last several weeks. Some of the Silicious lime wells that had an initial production of 20,000 bbls. are now, six months later, making 350 bbls., and only being allowed to produce one day out of each six days.

Several companies in the Oklahoma City Pool have installed the gas lift method on wells. It is still too early to say what success this method will have on lifting the oil.

During the coming summer a city-lot drilling campaign is expected to be in progress in the north end of the Oklahoma City Pool. This kind of development will be interesting as history tells us that only a few town-lot campaigns have been a financial success and those have been in much shallower areas. A town-lot campaign with wells costing $125,000 to $150,000 has never been attempted in the Mid-Continent before. Up to the present time the drilling tests have proceeded slowly and with care but indications are now that the rush is on, and all efforts will be made to complete the tests in as short a time as possible in the town-lot area.

Up to the present time only a few of the drilling tests have been skidded on account of crooked holes. Practically all the test wells are as straight as possible, compared to the Seminole area, where many holes were lost on account of being crooked. The average total depth of the Oklahoma City wells is 6,500 feet, while those in the Seminole area average about 4,200 feet.

Wild Well Shut In

The Phillips Petroleum Co., Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Sigmon, NW cor. SW, Section 32-11-2w, was successfully shut in after blowing wild for several days. Numerous teams and workmen were plowing up the oil-drenched land surrounding the well in the southeastern part of the field.

Shell Petroleum Corp. has announced a new location a quarter mile west of production on the west side of the Oklahoma City Pool. The new location is No. 1 Egermeier, NE cor. SW, Section 23-11-3w. The Shell Petroleum Corp. has previously limited its activity to its Petty lease on the east side of the field. The nearest producer to the new location is the Mid-Kansas Oil & Gas Co.'s No. 3 Mollman, which was completed for 1,726 bbls. the first 12 hours.

Indian Territory Illuminating Oil Co.'s No. 3 Jones Community, NW cor. SW SW, Section 1-11-3w, in the north end of the pool, blew in and was shut in after cleaning itself. More tankage is being erected, preparing for a production test. Some estimate the well at 10,000 bbls. and 30,000,000 feet of gas. The well is producing from Simpson sand at a total depth of 6,512 feet.

Cromwell-Franklin Oil Co.'s No. 16, Trosper Park, SE cor. NW NE, Section 13-11-3w, was again opened up and made 268 bbls. in 15 minutes. It was shut in several days ago when water began showing. The pay horizon was found at 6,397 feet which was shallower than other wells on the same property drilled into the producing sand.

The wildcat test of J. F. Cunniff and Pandem Oil Co. west of Bethany in Oklahoma County, had a showing of gas in sand at 6,035-50 feet. The test has been shut down waiting for cement, after landing the 9-inch casing at 5,997 feet. The crew was bailing to test the showing on the last report. The showing of gas has stimulated interest in the area and the developments at the well are being watched closely.

With the lifting of the restrictions surrounding the Phillips Petroleum Co. and others' No. 1 Sigmon, in the NW cor. SW, Section 32-11-2w, Indian Territory Illuminating Oil Co.'s No. 1 Salsman, NW cor., Section 32-11-2w, a half mile north of the former wild well, was brought on to production. It proved to be a small well only averaging about 10 bbls. of oil an hour, and 12,000,000 feet of gas. It had been shut in for several days.

Important Extension Tests

Indian Territory Illuminating Oil Co.'s No. 2 S. Bodine, SE cor. NW NW Section 30-11-2w, a quarter mile southeast from the discovery well, has a hole full of water. The test is cleaning out at a total depth of 6,639 feet in the Silicious lime.

The development is extending still farther south into Cleveland County. The Cromwell-Franklin Oil Co. has announced another location to the south in the NE cor. SW Section 6-10-2w, for No. 1 Reynolds. The location is on a 160-acre lease and is a mile south of the nearest producing well in the Oklahoma City Pool. While there is no production south of Section 36-11-2w, there is a row of derricks along the north line of Section 6-10-2w, and others extending three locations south. Some companies are hesitating about entering into the development there, until production has been found. Some express the opinion the structure on which production has been found may break about the middle of Section 6-10-2w.

Another interesting wildcat test on the west side of the Oklahoma City Pool is G. D. Warr, trustee's No. 1 Castle, SW cor. NW Section 20-11-3w, which has cemented casing at a total depth of 5,370 feet in lime. This wildcat has had several showings of oil and gas in the shallower horizons.

Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Section 10-11-3w, a wildcat test on the west side of the pool, cored a sand at 6,340-80 feet, with a showing of oil. If this test makes a commercial well it will extend production 1¼ miles west in the Oklahoma City Pool.

Wirt Franklin Petroleum Corp.'s No. 1 Wright, NE cor. NW Section 2-11-3w, cored sand at 6,323-41 feet, showing oil, and again at 6,341-47 feet, with a show of oil. This is an important test and will extend production a mile northwest toward the city limits. The outcome of this well is being watched closely, being located on the east edge of Oklahoma City, where a town-lot drilling campaign may develop if commercial production is uncovered.

Prairie Oil & Gas Co. and Tom Slick Oil Co.'s No. 1 Dills, SE cor. NW Section 17-13-3w, a wildcat north of the main pool, in Oklahoma County, has the top of the checkerboard lime at 5,417 feet. This formation is considered a marker in the main Oklahoma City Pool, on which geologists determine how a test is running on structure. The depth of this formation compares favorably with the wells already drilled in the Oklahoma City Pool. It was drilling deeper at 5,500 feet in lime.

Forty-three different companies were operating in the Oklahoma City Field on May 23. These companies had a total of 559 operations divided as follows, 240 completed wells, 13 gas wells, 88 locations, 24 drilling less than 3,000 feet, 108 between 3,000 and 6,000 feet, 56 below 6,000 feet, and 30 waiting on cement to set.

Leasing in Adjoining Counties

The three counties nearest to Oklahoma County on the south and west are being leased and are the most active counties in the State. The new play has extended into Grady, Canadian and Caddo Counties. New wildcat locations are expected during the summer in these counties. A community test is expected to start in Section 24-6-11w, Caddo County, in a few weeks. The only production found to date in these three counties is the Cement Pool, in Caddo County, and the Chickasha gas field in Grady County. The majority of the oil production in the Cement Pool is owned by the Ramsey Petroleum Corp., Magnolia Petroleum Co. and Mid-Kansas Oil

(Continued on Page 64)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Cleaning out 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rigging up standard tools 4,660 ft.; cleaning out.

BECKHAM COUNTY

Ray Johnson and J. R. Cuniff's No. 1 Brower, C NW Sec. 29-10-22w	Rig.
Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson et al's No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Shut down 1,575 ft.

BLAINE COUNTY

Lowen et al's No. 1 Unknown, NW cor. SW NW Sec. 17-16-11w	Spudded and shut down.
Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 12-19-10w	Drlg. 3,130 ft.

CADDO COUNTY

W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Drlg. 5,780 ft.
Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.
Phillips Petroleum and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w	Wilcox 7,716-20 ft., water; plugging back to 5,000 ft.; abandoned.

COAL COUNTY

A. M. Van Orden's No. 1 Jamison, SE NW Sec. 31-1-9	Drlg. 395 ft.
Blackwell O. & G. Co.'s No. 1 L. Jackson, NW cor. Sec. tion 26-3-9	Location.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 2,975 ft.

COMANCHE COUNTY

V. Wright's No. 1 Indian Land, SE SW Sec. 29-2-9w	Swabbed 4 bbls. 1,920-34 ft.; shut down.
G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Shut down 1,450 ft.
Green et al's No. 1 Wilson, C NE SW Sec. 14-1-12w	Shut down 4,055 ft.

GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w	Drlg. 5,584 ft.

(Continued on Page 159)

Kansas Averages 133,000 Bbls. a Day

State Has a Potential in Excess of 175,000 Bbls. Voshell Pool Overproducing. Big Gas Campaign in Southwest

By W. A. Spinney
Staff Correspondent, Kansas Fields

Oil production increased in Kansas again for the week ending May 24, and reached a new peak for the year. The average daily production for the seven days was approximately 133,000 bbls. The State's daily potential production is between 175,000 and 200,000 bbls. a day.

The western part of Kansas is the scene of increased activity. New locations are being made every week and new wildcat tests are finding oil with surprising regularity. Russell County's wildcatters have found production in three different wildcat tests during the last few months. The other recent discoveries in the same county were made by the Empire Oil & Refining Co. in its test in Section 36-13-15w, and Slick, Pryor & Lockhart, in Section 24-15-14w. Stearns-Streeter Co. are moving in material for a test a half mile west and a location north of the new Marland, Inc.'s well. The location is for No. 1 Mitchell, SE cor., Section 6-15-14w, where the company has 320 acres under lease. The Empire Oil & Refining Co. announced a new location in the SE cor. NE, Section 26-14-14w, Russell County. Slick, Pryor & Lockhart are starting another wildcat in the southern part of Russell County. The rig is moving in for No. 1 Berrick, SE cor. SW, Section 23-15-13w.

E. W. Marland, Inc. and others' No. 1 Gideon, in Section 8-15-14w, Russell County, swabbed 140 bbls. in 10 hours. On a later report the well was swabbing 7 bbls. an hour. The hole is caving and the casing is to be landed and cemented on top of the pay horizon which was found at 3,267-72 feet.

New Test Near Oxford

Magnolia Petroleum Co. started a new wildcat test near the Oxford Pool in Sumner County. It is the first test the Magnolia Petroleum Co. has started in Kansas since it acquired the leases and producing properties of the White Eagle Oil & Refining Co. The location is in the NW cor. SW, Section 9-33-2, southeastern Sumner County, 9 miles from Oxford. Another test was drilled in the SE cor. NE, Section 9-33-2, several years ago by Marland Oil Co. to a total depth of 3,528 feet. The area has been attractive for several years and a number of other tests have been drilled, some showing oil. Shell Petroleum Corp.'s No. 1 Rutter, SE cor. NW NW, Section 21-33-2, had a showing of oil. Same company drilled another test in Section 12-33-1, and Shaffer Oil & Refining Co. now Deep Rock Oil Co., drilled in the NE cor., Section 21-33-2. The Magnolia Petroleum Co.'s test is on a block of 1,800 acres. Other companies owning acreage in the vicinity are the Indian Territory Illuminating Oil Co., Mid-Kansas Oil & Gas Co., Shell Petroleum Corp., Prairie Oil & Gas Co., Continental Oil Co., Ramsey Petroleum Corp., Minnehoma Oil Co. and Gypsy Oil Co.

Southwestern Kansas Activity

The most active area in the State at the present time is in the extreme southwestern part where an extensive drilling campaign is in progress with gas as the objective. The development is being handled by one company which contemplates the drilling of 100 wells in that part of the State during the balance of the present year. The gas production obtained is expected to furnish the major part of the gas going into the new pipe line now under construction between that area and the territory in eastern Nebraska. The Argus Production Co. has 36 operations under way out of a total of 41 operations in Stevens and Morton Counties. This company owns 365,000 acres of leases in these counties practically all of which is considered to be potential gas acreage. Some geologists have reported the possibility of finding oil in the deeper formations in this field. Deeper production may be obtained from the Wilcox sand or Silicious lime at a depth of between 5,000 and 6,000 feet. No test has been drilled in the proven gas area to confirm this but it is expected one or more may be started in the near future. This area known as the Hugoton gas field in these two counties is the largest gas producing field in the State.

In Sedgwick County

Six new tests were started on the east edge of Wichita during the week. Fisher & Lauck's No. 2 Trustee, in Eastborough Townsite in Section 30-27-2, Sedgwick County, was spudding. Same operators' No. 1 Shaffer, NE cor. SE NW, Section 30-27-2, was moving in. Vickers Petroleum Co. was building a rig for No. 1 Keys, in Eastborough Townsite. Derby Oil Co. was expected to make a location in the Eastborough Townsite. Wixon & Spencers' No. 1 Rounds, SW cor. S half, Section 17-27-2, 2 miles east of the city limits is a location. Six Forty Oil Co. announces it will start drilling a test along the south line of Section 6-28-2, Sedgwick County. The Blankenship Petroleum Co. purchased the N half NW, Section 30-27-2. This acreage is close to the new development in the vicinity and it is expected a new location will be announced in a short time.

Rice County Developments

A town lot drilling campaign is in progress on the townsite of Raymond, in Rice County. The third test has been moved in by Robertson and others' No. 1 Snider, center of Block 7, in the northeast part of the townsite, in Section 27-20-10w. The other tests were Braden & McClure's No. 1 Groves, in Block 31, and Western Oil Corp.'s No. 1 Gill, in Block 4, which was drilling at 2,100 feet. Raymond is located a mile southeast of the Schurr Pool in Rice County, where five producing wells have been completed with a potential of more than 5,000 bbls. daily. These new wells were curtailed to 50 bbls. a day, and new drilling operations limited to one drilling test on each 80 acres until August 1. The Texas Company has announced a new location a quarter mile west of the producing wells in the Schurr Pool in Rice County. The location is in the SE cor. SW NW, Section 21-20-10w.

Empire Oil & Refining Co. continues to develop its holdings in the Patterson Pool in Greenwood County, with two new tests. No. 3 Nesbit, C NW NW, Section 6-24-12, and No. 9 C. Patterson, NW cor. SW SE, Section 36-23-12.

Phillips Petroleum Co. and Aladdin Petroleum Corp.'s No. 2 Jones, NW cor. SE NW, Section 36-24-10, Greenwood County, has extended production in the Wiggins Pool, two locations south. The oil was found in the Bartlesville sand from 1,890-1,920 feet, and was shot with 100 quarts, estimated at 200 bbls.

The showing of oil that was uncovered in the Ellis County wildcat has caused more tracts to change hands. Rush Oil Co.'s No. 1 Gatewood, NW cor., Section 4-15-20w, had considerable oil in the hole from 3,337-42 feet. The test was drilling deeper at 3,357 feet.

Too Much Oil from Voshell

In the Voshell Pool, McPherson County, the May 15 potential from 36 wells pumping and 21 wells on the swab, and 2 others not tested but estimated, was 44,790 bbls. It is expected the pipe line runs will be curtailed to 20,000 bbls. a day. One of the pipe lines serving the pool advises that they were receiving more oil than they can handle. The shipments have been averaging around 23,000 bbls. daily. Pipe lines buying oil in the area were the Prairie Pipe Line Co., Shell Pipe Line Co., Derby Oil Co., and Skelly Oil Co.

Derby Oil Co. has completed another well in the Voshell Pool, No. 4 Stucky, NW cor. SE, Section 9-21-3w, which swabbed 1,525 bbls. in 24 hours. The seven completed wells on the lease had a potential of 7,550 bbls. a day.

To Prevent Stream Pollution

Kansas streams are now safe from oil pollution. Oil companies are co-operating with the State in preventing pollution. A meeting between oil operators and representatives of the State held in Wichita May 22 brought out the fact that there was little chance of pollution to the streams or the drainage basins adjacent to oil producing areas. In the future precautionary measures may be taken in time to prevent damage from salt water from oil wells. Three men were appointed by the oil companies to co-operate with the oil companies and the state Board of Health to avoid pollution. On the committee are A. S. Richie, Derby Oil Co., Wichita; R. C. Betts, Empire Oil & Refining Co., Eldorado, and R. S. Knappen, Gypsy Oil Co., Tulsa. These men have joined with the representatives of the State, Dr. Raymond C. Moore, state geologist; Ernst Boyce, state Board of Health, and Murray Wilson, state game and fish department, in forming a general committee on the disposal of salt water. At the meeting Ernst Boyce was elected chairman and Murray Wilson secretary.

The general committee visited the Valley Center and Greenwich Townsite Pool in Sedgwick County. All the salt water from the Valley Center Pool is pumped through a pipe line and dumped into the drainage canal. Salt water from the Greenwich townsite is being pumped into surface ponds by the companies where it is being evaporated. One of the companies is pumping part of its salt water into an abandoned well. The committee discussed steps necessary to safeguard the drainage basin around the Voshell Pool in McPherson County, when the salt water appears in large enough quantities, as it has in all pools producing from the Silicious lime.

Barber County

Barbara Oil Co.'s No. 2 Alexander, C NW NW, Section 24-33-13w, has been completed for 27,000,000 feet of gas in sand 4,446-63 feet.

Butler County

Empire Oil & Refining Co. made location for No. 1 Crawley, NW cor. SW, Section 11-28-5. Agate Oil & Gas Co.'s No. 1 Deatherage, SW cor. NW SE, Section 20-29-4, is drilling at 700 feet. Empire Oil & Refining Co.'s No. 97 Koogler, NW cor. SE, Section 20-26-5, has been completed for 75 bbls. in Viola lime 2,524-48 feet, total depth 2,609 feet. Durham and others' No. 1 Durham, SW cor. SE SE, Section 16-29-4, is dry and abandoned at 3,336 feet.

Edwards County

Dixie Oil Co. and Amerada Petroleum Corp. made location for No. 1, SW cor. SE, Section 20-25-17w. Barnsdella Oil Co. made location for No. 1 Carroll, C SW, Section 32-25-17w. No. 1 McCarthy, NW cor. NE, Section 31-25-17w, has been completed for 240 bbls. in sand 4,547-62 feet.

Elk County

Minnehoma Oil Co.'s No. 2 Denton, NW cor. SW SW, Section 3-31-8, is rigging up to deepen from 2,000 feet.

Ellis County

Davis and others' No. 4 Weiland, SW cor. NE NE, Section 1-13-16w, has been completed for 190 bbls. in sands 3,004-08 feet and 3,079-83 feet.

Greenwood County

National Refining Co. made location for No. 10 Wick, SW cor. SE, Section 27-22-11. Derby Oil Co. and others' No. 1 Burke, NE cor. NW NW, Section 36-23-8, has been abandoned at 2,650 feet. Empire Oil & Refining Co.'s No. 3-B Patterson, SW cor. SE NW, Section 36-23-11, is dry and abandoned at 2,015 feet. Derby Oil Co.'s No. 3 Beavers, C SW SE, Section 25-24-12, made 30 bbls. in sand 638-53 feet. The Prairie Oil & Gas Co.'s No. 4 Newhouse, NE cor., Section 1-24-11, has been completed for 150 bbls. in

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WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Barbara Oil Co.'s No. 1 Hamblin, SW NW Sec. 24-33-13w	Rig on ground.
Skelly Oil Co.'s No. 1 Temple Ranch, SW NE Sec. 13-34-15w	Drlg. 5,493 ft.
Phillips Pet. Co.'s No. 1 Powell, SE cor. SE Sec. 11-32-10w	Shut down 4,100 ft.
BUTLER COUNTY	
Aladdin Pet. Co.'s No. 1 Metzger, NW SE Sec. 23-28-3	Rig.
Gypsy Oil Co.'s No. 1 Osborne, NW SE Sec. 22-26-3	Rig.
T. C. Johnson's No. 1 Heath, NE SE Sec. 12-27-3	Drlg. 1,200 ft.
Elam et al's No. 1 Hopkins, SE SW SE Sec. 26-23-4	Drlg. 2,130 ft.
Joe Liggett's No. 1 Guanther, C SE NE NW Sec. 29-26-7	Shut down 50 ft.
CHASE COUNTY	
Chase County Gas Co.'s No. 1 Weirhoff, SW NW Sec. 21-19-6	Rig.
Urschell et al's No. 1 Lippa, C SW SW Sec. 27-18-6	Drlg. 2,020 ft.
Steinbuckel et al's No. 1 Stephenson, NE SW Sec. 4-20-6	Drlg. 1,740 ft.
Steinbuckel et al's No. 1 Cook, SE cor. Sec. 21-19-8	Drlg. 2,560 ft.
CHAUTAUQUA COUNTY	
Valentine Oil Co.'s No. 1 Patterson, NW SE SW Sec. 2-33-9	Shut down 1,690 ft.
CLAY COUNTY	
Chrisler et al's No. 1 Tivier, SW cor. Sec. 19-8-3	Drlg. 950 ft.
COFFEY COUNTY	
Kimsay's No. 1 Baker, SE cor. Sec. 24-22-13	Shut down 50 ft.
COWLEY COUNTY	
Tom Fine's No. 1 Boyd, NW NE Sec. 32-32-4	Rig.
Roth & Faurot's No. 1 Adams, C SW NE NE Sec. 19-32-8	Show oil 2,120-44 ft.; T. D. 2,147 ft.; fishing.
Prairie O. & G. Co.'s No. 1 Dosbaugh, SE cor. Lot 27, Sec. 18-32-8	Abandoned 2,875-80 ft.; dry sand; total depth 2,908 ft.
DICKINSON COUNTY	
Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2	Shut down 50 ft.
Emery-Curtis & Bryan's No. 1 Hevner, NW SE Sec. 31-13-3	Drlg. 2,550 ft.
Cross' No. 1 Sanden, NE cor. Sec. 12-15-2	Rig.
Hiatt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2	Shut down 50 ft.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4	Shut down 2,935-43 ft.; water.

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La.-Ark. Fields Slowed Up By Floods

Damage of $1,000,000 in Smackover Alone. Production Seriously Affected. Standard Gets Good Well

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., May 26.—Floods in south Arkansas and in Caddo Parish overshadowed all other developments in this division in the past week, though the second producer and the second failure in the Holly district and important salt water tests in Zwolle were by no means to be overlooked. Back water from the Ouachita River and high water in Smackover Creek flooded a large part of Smackover and in Caddo, Black Bayou, Caddo Lake, the north Caddo drainage canal and other streams through and near the Caddo fields submerged many wells there. Daily average runs from the division will show the results of the high water, which is higher than during the memorable floods of 1927, for the next two or three weeks.

Serious Flood Results

A preliminary estimate shows a decline of approximately 4,000 bbls. in Smackover and 2,000 bbls. in Caddo but it is in material damage that the costs will be greatest, estimates running from $1,000,000 up in Smackover alone. By actual count 843 wells are off production in Smackover but it is probable that when the water drains off the field which is expected to be by the middle of this week, it will be found that 1,000 or more were put out of commission. No figures are available as to the number of Caddo wells that are shut down but it is not less than 500 scattered in Caddo Lake, Oil City, Pine Island and Dixie districts. Gulf Refining Co., which was hardest hit of all, has 214 wells off production, and 143 in Smackover. Magnolia Petroleum Co. has 102 off in Smackover; Standard Oil Co. 82; The Texas Company 70; Marine Oil Co. 35; Root Refineries 32; Southern Crude Oil Purchasing Co. 31; J. D. Reynolds 25, and Marr Oil Corp. 22, other companies bring the total up to a high figure.

H. H. Cross refinery at Smackover was shut down until May 21, and the Arkansas Natural Gas Corp.'s Rogers compressor station, just north of Oil City on the main line to Little Rock, was off for about six hours when water from Caddo Lake backed up into the pump house. After raising the pumps on blocks, however, operations were resumed. The lake is backed into Gulf Refining Co.'s warehouse at Mooringsport, covering the floor to a depth of about 8 feet and on the opposite or north shore the highway, a main north and south transcontinental route, is impassable. Oil City is isolated so far as highway travel is concerned and the only way of reaching Mooringsport from Shreveport is by way of Greenwood as the flood waters have reached but not inundated the latter. South of the city a Red River levee broke May 23 and the exclusive Broadmoor residence section of the city was threatened.

Cotton Valley had a number of wells down on account of backwater from Dorcheat Bayou. Red River is over both railroad and highway on the Bossier side several miles below the city but so far has not affected either the Elm Grove or Red River Parish fields, but as the crest of the flood has not reached Shreveport yet, there is still danger of the Red River Parish pools being affected and several wells close to the banks of the river being lost. One already has toppled in, carried by caving bank. Several drilling wells in the Monroe Field were shut down by high water and there probably will be more when the crest of the flood in the Ouachita River reaches it. The Richland Field is not apt to be affected as the flood threat in that area is from overflow of the Arkansas River as in the floods of 1927. In that year the field, the development of which was just beginning, was mostly under water. So far no main pipe lines either gas or oil have been broken either by Red River or the Ouachita in Arkansas or Louisiana. Standard Pipe Line Co.'s pumping station at Kenova on the line to loading wharves on the Mississippi was flooded out and Arkansas-Louisiana Pipe Line Co.'s 20-inch line from Richland and Monroe to Latex was threatened when Dorcheat Bayou washed out a bridge and a section of the main highway from Shreveport a mile or so west of Minden. Highway traffic is impossible east and north from Shreveport and south on the east bank of Red River. Only by long and complicated detours can traffic move north and east. However, by the time this is printed it is thought conditions will be back almost to normal.

Production

The first check of any accuracy on Standard Oil Co.'s completion in the Holly district showed that it made 615 bbls. the first 15 hours flowing through a seven-sixteenth-inch choke.

Preliminary estimates of the reduction in daily average runs from Caddo and Smackover on account of the floods prevailing in those districts were away off in two respects. No check of Caddo wells shut down by the high water has been made but the decline in runs was only 190 bbls., 125 in the light oil districts and 65 heavy. Over two-thirds of the producing wells in Smackover were affected, by far the majority of them being in the heavy oil area. Light oil runs fell off only 880 bbls. but heavy oil movement dropped 11,095 bbls.

Total runs show a decline of 13,810 bbls. of which 1,070 were from Louisiana districts whose total runs were 40,000 bbls. Daily average runs from the field during the week were:

NORTH LOUISIANA

Caddo, light	9,535
Caddo, heavy	2,845
Homer	3,610
Haynesville	4,600
DeSoto-Red River	3,200
Elm Grove	415
Bellevue	650
Cotton Valley	2,200
Urania	5,050
Pleasant Hill	650
Sarepta-Carterville	3,230
Zwolle	3,260
Holly	755
Total	40,000
Last week	41,070
Increase	1,070

ARKANSAS

El Dorado	4,045
Smackover, light	4,420
Smackover, heavy	29,145
Stephens	940
Nevada County	950
Lisbon	1,000
Champagnolle	3,840
Bradley	80
Mount Holly	125
Urbana	325
Total	44,870
Last week	57,610
Both states	84,870
Last week	98,680
Decrease	13,810

Drilling activities were featured by Standard Oil Co.'s completion of No. 1 Whitaker, Section 5-13-13, one of the wells taken over in the recent trade with R. O. Roy and approximately 1,000 feet southeast of Roy's discovery well. It is the first successful well since the discovery and was completed at 2,848 feet, top of sand 2,833 feet. What it will do has not been determined as it was allowed to flow for only 10 minutes after cleaning itself. But in those 10 minutes it flowed an estimated 3,500 bbls. per day. Standard Oil Co. has begun work on two 55,000-bbl. tanks for storage at Holly, about 2 miles from the field, and made location for No. 1 McClanahan in Section 8-13-13.

Standard Oil Co.'s No. 1-B Parker, Section 31-14-13, half a mile northwest of the discovery well, made a drill stem test at 2,847 feet and got a 4,000,000 to 5,000,000-foot gas well by an equal distance northeast of the discovery. No. 1 Lee, in Section 33-14-13, apparently limits the field in that direction as it tested salt water with a slight show of oil from 19 feet of sand at total depth of 2,848 feet and will be abandoned.

Week of Discouragements

Zwolle and Blue Lake areas in Sabine Parish presented rather a gloomy picture. Six wells in Zwolle, one of them a location that has been inactive for the last month, were dropped from the list and in the Blue Lake area, Ohio Oil Co.'s No. 2 Acct. 1 Bowman-Hicks, Section 6-7-13, 2½ miles northeast of production, was abandoned as a salt water test 6 feet in the Blossom sand at 2,533 feet. R. L. Gay and W. E. Cook were reported during the week on a trade to dispose of their producing acreage in Blue Lake, but if so haven't closed yet. Their No. 4 Sabine, Section 13-7-14, half a mile southeast of production, tested dry after a show of oil at 2,501 feet and is drilling. The wells dropped were Bahan & Bahan's No. 1 Mischel, Section 32-8-12, dry at 2,570 feet; three wells of G. A. Henshaw and others in Section 31-8-12; No. 1-B Sabine Lumber Co. at 2,330 feet; No. 3-A Sabine, a location, and No. 1-A Sabine at 2,525 feet; Ray-Dawes Drilling Co.'s No. 1 Mansfield Hardwood Lumber

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WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
AVOYELLES PARISH

Company, farm and location—	Remarks—
R. E. Tippett's No. 1 Chateline, NE NE, Sec. 34-1n-3e	Arranging to cmt. 6-in. 2,265 ft T.D.

BIENVILLE PARISH

Ark.-La. P. L. Co.'s No. 1 Ashley, 600 ft. N, 660 ft. W, SE cor., Sec. 15-16-10	Derrick.
W. A. Nichols et al's No. 1 McDermott, 660 ft. S, 660 ft. W, NE cor. NE NE, Sec. 28-18-6	Tested dry 2,050 ft.; S.D. 2,130 ft.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	S.D. 765 ft.
Reid Clark et al's No. 1 Bollinger, SE cor. NW NW, Sec. 21-22-11	Drlg. shale 2,920 ft.
C. H. French's No. 1 Biedenharn, Sec. 23-21-14	Tested S.W. 1,042 ft.; S.D.
La. G. & F. Co.'s No. 1 Crystal Oil Ref. Co., 66 ft. N, 1,320 ft. W, SE cor. SW SE, Sec. 7-21-11	Drlg. sandy shale 2,580 ft.
H. I. Morgan's No. 4 Wetherbee, 125 ft. W, 200 ft. S, NE cor. SW SE, Sec. 21-19-11	D.S. test 2,082 ft., dry; drlg. 2,895 ft.
Walker et al's No. 1 Antrim, NW cor. SE, Sec. 28-22-13	Arranging to resume operations; T.D. 3,184 ft.

CADDO PARISH

Magnolia Pet. Co.'s No. 1 Swann, 330 ft. N, 380 ft. W, SE cor. NE SW, Sec. 16-21-14	Drlg. shale 1,890 ft.
L. B. Mawk's No. 1 Swann, 440 ft. N, 200 ft. E, SW cor., Sec. 23-21-14	S.D. for fuel; T.D. 700 ft.
R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE, Sec. 32-23-16	Drlg. lime 4,860 ft.
I. N. Pariss, trustee's No. 1 Oden, NE cor. SE NE, Sec. 16-19-14	S.D. 2,322 ft.; topped sand at 2,396 ft.; set 6⅝-in.; T.D. 2,409 ft.
C. W. Robinson's No. 1 Wilson, 990 ft. S, 330 ft. W, NE cor. SE, Sec. 2-15-16	Drlg. lime 2,300 ft.
Triangle Drlg. Co.'s No. 1 Hardy et al, 660 ft. N, 660 ft. W, SE cor. fractional Sec. 18-19-16	Tested dry 2,320 ft.; drlg. 2,370 ft.

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LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA
BOSSIER PARISH—CARTERVILLE

Company, farm and location—	Remarks—
Ark. Fuel Oil Co.'s No. 2-A Barnett, 330 ft. N, 330 ft. W, SE cor. W½ SE SE, Sec. 25-23-12	Cmtd. 6⅝-in. 3,132 ft; T.D. 3,152 ft.
Ark. Fuel Oil Co.'s No. 2-B Barnett, 330 ft. N, 330 ft. W, SE cor. NW NE, Sec. 26-23-12	Cmtd. 6⅝-in. 3,135 ft; T.D. 3,155 ft.
Ark. Fuel Oil Co.'s No. 4-A Kilgore, 100 ft. N, 1,330 ft. E, SW cor. SE SW, Sec. 30-23-11	190 ft. oil; W.O.S.R; T.D. 3,133 ft.
Ark. Fuel Oil Co.'s No. 4-B Kilgore, 200 ft. N, 300 ft. E, SW cor. NE NW, Sec. 31-23-11	W.O.S.R. 3,175 ft.
Ark. Fuel Oil Co.'s No. 6-B Kilgore, 330 ft. S, 330 ft. E, NW cor. NE NW, Sec. 31-23-11	W.O.S.R. 3,162 ft.
Ark. Fuel Oil Co.'s No. 7-B Kilgore, 330 ft. S, 990 ft. E, NW cor. NE NW, Sec. 31-23-11	W.O.S.R. 3,164 ft.
Ark. Fuel Oil Co.'s No. 8-B Kilgore, 330 ft. N, 1,520 ft. E, SW cor. NE NW, Sec. 31-23-11	Drlg. 2,528 ft.
Ark. Fuel Oil Co.'s No. 9-B Kilgore, 330 ft. S, 1,650 ft. E, NW cor. NE NW, Sec. 31-23-11	Location.
Ark. Fuel Oil Co.'s (formerly Muslow Oil Co.'s) No. 1 Mark Myer, 1,980 ft. N, 330 ft. W, SE cor., Sec. 36-23-12	Cmtd. 4½-in. 3,170 ft.
Ark. Fuel Oil Co.'s (formerly Muslow Oil Co.'s) No. 3 Peyton, Sec. 30-23-11	T.A. 3,285 ft.
Ark. Fuel Oil Co.'s (formerly Muslow Oil Co.'s) No. 1 Floyd, 990 ft. S, 330 ft. W, C, Sec. 25-23-12	W.O.S.R. 3,176 ft.
Ark. Fuel Oil Co.'s No. 1 Ramsey, 557 ft. S, 330 ft. E, C, Sec. 31-23-11	W.O.S.R. 3,171 ft.
Ark. Fuel Oil Co.'s No. 1 D. W. Wilkinson, 400 ft. S, 500 ft. E, NW cor., Sec. 5-22-11	O.W.D.D; abd. dry, 3,068 ft. Nov. 29, 1928; arranging to deepen.
Askew & Goodman's No. 1 Roberson, 330 ft. S, 282 ft. W, NE cor. SW SW, Sec. 25-23-11	Show oil, gas and S.W; T.D. 3,167 ft; T.A. 3,280 ft.

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Possible New Guadalupe County Pool

Tidal Company's Wildcat in Austin Chalk Tests 1,000 Feet of Oil. Cosden's No. 1 McKinney, Pettus Field, Flows 500 Bbls.

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., May 26.—Cosden Oil Co.'s No. 1 McKinney came in flowing around 500 bbls. from sand at 3,656-67 feet. It is in the Pettus Field and the oil is the same gravity as that in the discovery well though it is 300 feet shallower and 2½ miles west. The completion of the Cosden well and the testing of the Tidal Oil Co.'s No. 1 Seligman in Guadalupe County, a wildcat 10 miles south of Seguin which at 2,511 feet and in the Austin chalk tested 1,000 feet of oil, were the features of Southwest Texas. The Tidal well makes it look as though a new pool was about to be opened in Guadalupe County.

The Pettus Field consists of seven wells, all in a group 1 mile east of Pettus in northern Bee County and producing from sand at around 3,900 feet. The Cosden well in the southern part of the two John Page Surveys and 1½ miles west of Pettus, is 350 feet from the southeast and northeast lines of the McKinney 300-acre tract. Elevation between the Cosden well and the discovery well and its offsets is not sufficient to account for the difference in depth of the wells. Flow of the Cosden well is about the same as the others.

The Cosden well came in flowing at the rate of about 25 bbls. an hour, part drilling fluid, the well not having entirely cleaned itself. There is not a great deal of gas but the expectation is that when the drilling fluid and mud is all out it will make around 500 to 600 bbls. This is the first test completed at some distance from the discovery well to make oil. F. P. Zoch got gas with a spray of oil 8 miles to the east and Morgan and Benedum & Trees got gas 2½ miles north of the discovery well and Union Producing Co. got gas and a little oil 2½ miles east of the discovery well. The Cosden well is all oil.

Houston Oil Co. drilled a dry hole 1½ miles southwest of the discovery well and William F. Morgan drilled another dry hole a mile southwest of that seemingly proving the field did not extend in that direction. The Cosden well seems to show it will run more to the west. This makes the Grayburg test 4 miles farther west from the Cosden test begin to look like good territory. It cored a sand at 3,400 feet and stopped for repairs. The Grayburg test is the one that will probably be the most closely watched for awhile. Houston Oil Co.'s No. 1 Beasley in the northeast corner of the townsite of Pettus and halfway between the Cosden well and the discovery well has set surface casing. Barnsdall and Houston Oil Co. have each made locations for offsets to the Cosden test. Rowan & Tong's No. 1 Massengale, three-quarters of a mile northwest of the Cosden test, is down to 4,285 feet and will have to find a new sand if it creates any excitement, having passed the sand depth of the field.

Guadalupe Wildcat

Excitement was created in the past few days by the Tidal Oil Co.'s No. 1 Seligman in Guadalupe County in the J. H. Williamson Survey about 8 miles south of Seguin which, at 2,511 feet and in the Austin chalk, filled up 1,000 feet in oil in 10 minutes. The well is approximately 13 miles nearly due southwest from the nearest production in the Darst Creek Field. Top of the Austin chalk was encountered at 2,467 feet.

The first producer in the Joe Bruner Field was an Austin chalk well. There will continue to be some uncertainty as to its opening a new pool due to its being from the Austin, but it got the formation high and the chances of production from the Edwards lime are greatly enhanced.

Acreage was assembled for the test by the Sinclair Oil & Gas Co., the first geology being by that company's geologist. The block was assembled a year or more ago and later part of the acreage was given for a test and the Tidal has drilled that test and has 200 or 300 acres of the block. The core from the top of the chalk showed saturation.

This Tidal Oil Co.'s No. 1 Seligman, 1,750 feet from the southwest and 1,250 feet from the northwest lines of the J. H. Williamson Survey, gives added importance to the T. C. Hadley and Leonard Petroleum Co.'s No. 1 Hartwig in the Richard Nixon Survey, about halfway between the Tidal's test and the Darst Creek Field. No. 1 Hartwig has set 84 feet of 10-inch surface casing and has resumed drilling.

A test to the Edwards in the vicinity of the Tidal's No. 1 Seligman will be interesting.

Proven fields in the Balcones fault region and coast territory have not added much of interest. Abercrombie got a good well in Darst Creek on an inside location and the Humble Oil & Refining Co.'s No. 14 Denman in the A. S. Emmett Survey and on the west edge was in marl at 2,564 feet and looked like a downthrow test but went into Edwards at 2,587 feet and now looks like an oil well. It evidently didn't get much if any of the formations between the Taylor marl and Edwards.

Laredo District

There was no completions of producers in the Laredo district, but Ed East's No. 1 Garcia in Brooks County not far from the Lasater Pool discovered by the Houston Oil Co., tested 8,000,000 feet of gas with 410 pounds pressure from sand at 1,084-1,109 feet. The well is in Share A-1 La Mestana y Gonzales tract. A small flock of other wells in the Laredo district are standing with oil in the hole or showings of oil and there were no dry holes abandoned.

The Ed Wast test is probably the most important. R. F. Blankenship of Oklahoma tested 17 trebles of salt water and some gas in sand at 1,650 feet in his No. 2 Garza in the Muckelroy Pool. The point of interest is the showing of gas in a sand 300 feet deeper than the producing sand in that pool. The same operators' No. 2 Montemayor in the same district is standing 400 feet in oil at 1,303-23 feet and installing pump; Livingston & Twiss' No. 1 Trevino standing 500 feet in oil at 1,274 feet and cleaning out; John J. O'Hern's No. 1 Garcia standing 600 feet in oil at 1,238 feet, and Trinity Drillers' No. 1 Trevino standing 900 feet in oil at 1,266 feet.

Outside of that immediate district, which is between the Jennings gas field on the west and the Randado oil field on the east, the French Oil Corp.'s No. 1 Benavides in Survey 659 in Webb County, at the north end of the Cole Pool, is installing standard equipment. This test was reported last week as having tested 1,000 feet of oil in sand at 2,344-49 feet.

O. W. Killam's No. 18 Bruni, southeast of the town of Bruni in Webb County, which had reached 4,117 feet, has come back to 2,400 feet and is whipstocking. It is one of the deep tests in the Cole Pool.

Buchanan Pool

It looks like Al Buchanan and Dancigers would make an Edwards lime producer in the Buchanan Pool, where all the other wells are producing from the Serpentine. Their No. A-2 W. T. Cude, 2,110 feet from the northwest and 150 feet from the northeast lines of the William Spillers Survey is in the Edwards lime at 2,446 feet and looks like at least a 10 or 15-bbl. well. It has been known that there was a fault line running through the field, disclosed by logs of the shallow wells.

Medina County

There is quite a noticeable continuation of increasing activity in Medina County which in years past has been played over several times. Last week Burgin, Jones & Miller's No. 1 Hardt in Section 359 cemented casing at 1,157 feet, where it has an oil sand in the Taylor marl which the owners believe will make a well. It has the petroleum odor and is much like the Somerset Field which produces from that formation.

SOUTHWEST TEXAS
Average Daily Production

Branyon	33
Bruner	19,926
Buchanan	267
Dale	349
Darst Creek	21,453
Kingsville	112
Larremore	34
Luling	9,925
Lytton Springs	846
Manford	500
McMullen County	35
Medina County	22
Mirando	10,358
Pettus	3,114
Somerset	1,613
Yoast	515
Total Southwest Texas	69,102
Week ending May 17	73,534
Decrease	4,432

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

Company, farm and location—	Remarks:
ATASCOSA COUNTY	
BANDERA COUNTY	
Sun Oil Co.'s No. 1 F. E. Wisenhunt, 500 ft. from E line, 900 ft. from S line of tract, 8 miles NW from Bandera	Abandoned.
BASTROP COUNTY	
Judge Batts and others' No. 1 Alexander, 1,670 ft. N of S line, 528 ft. E of W line, Blk. 3 in the W. M. Eastland Sur., 3½ miles NE from Red Rock	T. D. 1,940 ft.; drlg. in marly shale (old well reinstated).
Pacific Oil & Gas Co.'s No. 2 J. Spooner, 300 ft. from N line, 400 ft. from W line in the L. Lavenuz Sur., 4½ miles E from Cedar Creek	T. D. 800 ft.; drlg. in sand rock.
BEE COUNTY	
Nichols Oil Corp.'s No. 3 Hicks, 500 ft. N-S line, 600 ft. E-W line of Blk. 19, just S of Normanna, 350 ft. SE of No. 2 Hicks discovery	T. D. 3,641 ft.; set 8¼-in. csg. at 3,620 ft.; W.O.C.
Rio Bravo Oil Co.'s No. 3 S.A.&A.P.R.R., 395 ft. S of Pettus Townsite in Kerr Sur.	Location.
Barnsdall Oil Co.'s No. 1 Roberts, 300 ft. each way out of NW cor. of 225-ac. lease in the George A. Kerr Sur.	Location.
Houston Oil Co.'s No. 1 Newman, 300 ft. from S line, 300 ft. from W line of 197-ac. tract offset to Cosden's well in J. A. Kerr Sur.	Location.
Rio Bravo Oil Co.'s No. 1 S.A.&A.P.R.R., A Smalley Sur.	Location.
Rio Bravo Oil Co.'s No. 2 S.A.&A.P.R.R., A. Kerr Sur.	Location.
Cosden Oil Co.'s No. 1 R. A. McKinney, 150 ft. from S and E lines of McKinney 350-ac. in N part of S. John Pace Sur., 1 mile W from Pettus	T. D. 3,668 ft.; running tubing and preparing to swab.
Rowan & Tong's No. 1 F. O. Massengale 350-ac., 150 ft. from S line, 3,184 ft. from W line of tract and survey, north John Pace Sur., 1½ miles W from Pettus Townsite	T. D. 4,285 ft.; coring.
Ed Price's No. 1 Mrs. Laura E. Weiss, 200 ft. out of NW cor. of B.&B. 640-ac. Sur., E of Normanna, 6 miles W of Blanco Creek, in the B.&B. Sur.	T. D. 2,075 ft.; drlg. in shale and lime.
Fisher & Wiggins' No. 1 A. J. Kimbell, C 189 acres in the Stephen Winship Sur.	T. D. 3,400 ft.; coring sand.
BROOKS COUNTY	
Houston Oil Co. of Texas' No. 1 Wormser-Holbien, 1,550 ft. S. 2,650 ft. E of intersection of Lisandro Saenz & Manuel Saenz tracts, El Palo & Blanco de Maguellas grant, SW of Lasater discovery gas	Location.
Humble Oil & Ref. Co.-Shell Pet. Corp.'s No. 2 Wm. Singels, 1,320 ft. W of E line, 1,800 ft. S of N line of Sec. 312, Alta Verde area, 7 miles SE from Lasater gas field	T. D. 560 ft.; set 10-in. surface csg.; W.O.C.

(Continued on Page 120)

COMPLETIONS

Darst Creek—Guadalupe County

Abercrombie Drilling Co.'s No. 2 Dix-McKean, 150 feet from north line, 150 feet from west line of 20-acre tract in the J. R. Robinson Survey; total depth 2,552 feet; flowed 1,500 bbls. Gulf Production Co.'s No. 3-A Dix-McKean, 150 feet south line, 150 feet east line 20-acre tract in the J. R. Robinson Survey; total depth 2,223 feet; flowed 22,300 bbls. Louisiana Oil & Refining Co.'s No. 3-A Dix-McKean, 875 feet from north line, 150 feet from west line of 74-acre lease in the J. R. Robinson Survey, total depth 2,301 feet; flowed 12,000 bbls. Louisiana Oil & Refining Co.'s No. 5 Thomas Dix, 500 feet south line, 150 feet east line of 50-acre tract in the J. R. Robinson Survey; total depth 2,579 feet; flowed 175 bbls. per hour. Sun Oil Co.'s No. 8 Knoblock, 150 feet from north and west lines of tract in the J. R. Robinson Survey; flowed 1,200 bbls.

Bruner Pool—Caldwell County

Gulf Production Co.'s No. 2 T. Brisco, 1,750 feet east of west line, 150 feet south line of 100-acre lease in the P. McCarley Survey; total depth 2,740 feet; flowed 300 bbls.

Jennings Pool—Zapata County

O. W. Killam's No. 22 Cuellar, 3,535 feet northwest line, 150 feet northeast line Cerrito Blanco grant; total depth 1,543 feet; set 6⅝-inch casing at 1,528 feet; sand 1,528-43 feet; flowed 300 bbls. Killam-Duggan's No. 16-C Cuellar, 150 feet north line, 150 feet southwest line Survey 278; total depth 1,547 feet; sand 1,534-47 feet; swabing 24 bbls. per hour.

ABANDONED TESTS

Cole Pool—Duval County

Cole Petroleum Co.'s No. 68 R. Benavides, 660 feet northeast line, 660 feet northwest line, Block 11, Survey 14; total depth 4,169 feet; temporarily abandoned. W. R. Duke's No. 2 J. M. Martinez, 415 feet southwest line, 500 feet

(Continued on Page 107)

Deep Flank at Barbers Hill Extended

Good Wildcat Producer at White Castle, Iberville Parish. Hankamer Field, Liberty County, Widened

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., May 26.—Substantial extensions of the deep, flank production at Barbers Hill which have been accompanied by a starting up of another spurt in new development there; another good wildcat producer at White Castle, Iberville Parish, Louisiana, the second well at that dome; and further proving up and widening of the new Hankamer Field, southern Liberty County, have broken a period of inactive developments which has been felt on the Gulf Coast for several weeks.

These areas somewhat shifted the interest for the time being from Refugio, which continues the most active area on the Gulf Coast with an intensive play to prove up the deep sand possibilities of the field. The addition of another producer in the 5,400-5,500-foot sand as one of the several completions for the week there, the finding of a deep sand in a well in the old part of the original field, which at 5,656-65 feet indicates either an entirely new deep sand or a sharp unconformity of some kind, were the high spots there although several key deep tests which occupied a chief place of interest a week ago have not changed their status.

Barbers Hill "Comeback"

Barbers Hill, Chambers County, did its almost regular "comeback" the past week with the completion of Yount Lee Oil Co.'s No. 1 Zadie Fisher, which extended production 2,500 to 3,000 feet up the southwest side of the dome and further indicating a continuous line of production around the dome. This well, which was drilled to a total depth of 6,929 feet into heaving shale and then plugged back to 6,690 feet, flowed 2,085 bbls., 9 per cent water, in the first 24 hours on a half-inch choke. The oil is 34.6 gravity which compares with the oil produced on other sides of the dome.

In addition to being the deepest well at Barbers Hill it is the deepest on the Texas Gulf Coast although two 7,400-7,500-foot wells at Evangeline, La., keep it from being the deepest on the entire Gulf Coast. The well is in entirely new territory, which being cut up with numerous ownerships, probably will be followed by an active development similar to that which has been forced on the east, south and southeast sides of the dome the past two years.

Yount Lee Oil Co. already has made location and rigged up for its second deep test on the tract, the second test being north of No. 1. This company also is rigging up for No. 5 Richardson, between the Fisher well and the present limits of production on the south side of the dome. Also following completion of the Fisher wildcat, Sun Oil Co. staked location and is rigging up an interesting test on the far west side, a good 4,000 feet north of the Fisher producer and between it and the little productive spot of the Humphreys Corp. on what is called the northwest flank of the dome.

In this latter spot, Humphreys Corp. so far has failed to make a successful completion in its No. 1-F A. E. Barber and for the second time is pulling screen to deepen. This well was brought in two weeks ago at a depth of 6,487 feet, then the deepest producing sand at Barbers Hill, flowing at the rate of 1,000 bbls. daily for a short time. The well was killed and deepened to 6,492 feet, where the well was brought in flowing 900 bbls. daily, but this production also failed to hold up.

This Barber well offsets to the southward, Humphreys' No. 8-A Kirby, which opened deep production on the northwest side of the dome January 4, 1930, and which so far is the only deep producer there, although there have been several shallower wells in that area. The Kirby well made one of the largest and best producers ever completed at Barbers Hill and perhaps established a record there for longevity of prolific flow.

Southwest Side Opened

At the same time production was opened on the southwest side of the dome, Humphreys Corp. virtually proved production on the opposite, or extreme north side, of the dome, a hitherto unsuccessfully developed area. This company's No. 1 Morgan set four joints of screen at a total depth of 6,404 feet and came in flowing at the rate of 1,500 bbls. daily but soon sanded. At present the wash pipe has been lost in the hole and fishing is under way. Considerable irregularity, however, has been indicated on the north side and shows up in the company's No. 1 Scott, a south offset to the Morgan well. No. 1 Scott, closer to the dome, late in the week was drilling 6,508 feet without getting the sand in the Morgan well.

Mills Bennett Production Co. has made location for another wildcat on the north side of the dome in its No. 3 E. W. Barber, which is several thousand feet to the west of Humphreys, Morgan and Scott tests and between them and the Humphreys development on the far northwest side. Mills Bennett also is getting ready to start up on another deep test on the southwest side of the dome on its Barrow tract, this being No. 10, and has made location on the southeast side for No. 3 Gulf-Higgins. The latter is in line of production of the older part of the field. It is a southward offset to McAlbert Oil Co.'s No. 6 Woodward, which is starting drilling.

Although generally speaking it can be said that production now has been found on all sides of Barbers Hill, on the east, south, northwest, southwest and north, the dome is of such size that these various productive spots lack long stretches of being connected, which leaves considerable wildcatting to be done before the dome is entirely proved. An almost solid line of production has been developed down the east and southeast flank of the dome connecting with production around the south but this yet constitutes the only proved development. Production at Barbers Hill, from the development around the east and south sides, already has safely passed its peak production and has been on the decline for the past month leaving any future important increases in output of the field dependent entirely on the success of wildcat development up the west and around the north sides.

White Castle Wildcat

Of particular interest from a wildcat standpoint was the completion by Shell Petroleum Corp. at its White Castle Dome in Iberville Parish of its No. 4 Wilbert. With one joint of 7-inch screen in the hole at a total depth of 5,175 feet, this well came in flowing 38 bbls. of pipe line oil hourly through a three-eighths and a three-quarters-inch choke and 2-inch tubing. Put on a nine-thirty-seconds-inch choke, the well on the first 24-hour gauge flowed 825 bbls. although in the second 24 hours it dropped to 525 bbls. Pressure on the tubing of the well was 650 pounds and on the 9⅝-inch casing 750 pounds. No water had shown up at the close of the week and the oil tested 24.1 degrees (corrected for temperature). Temperature of the well is 82 degrees.

This is the second producer at White Castle, a geophysically discovered dome. No. 3 Wilbert, completed last October as the discovery well, was completed flowing 515 bbls. of fluid, 90 per cent water and sediment, or approximately 50 bbls. net oil daily. That well, however, did the unusual for the Gulf Coast and since completion the oil production steadily mounted until it reached better than 370 bbls., a figure maintained almost constantly for several months. The well this week has dropped to around 325 bbls. net oil and it still is making considerable water.

No. 3 Wilbert, when completed, was looked upon virtually as a failure. It had been drilled to salt at a total depth of 6,029 feet and then plugged to a hard, sandy shale at 5,836 feet, where it was completed. No. 4 Wilbert is somewhat shallower than No. 3 and the oil is of slightly higher gravity, that in No. 3 being only 20° at a temperature of 90°. The two wells are in different sections of the dome, being several miles apart.

Daily Average Production

Daily average production of the Gulf Coast for the week ended May 24 was:

SOUTHEAST TEXAS

Allen	35
Barbers Hill	20,850
Batson	1,236
Big Creek	3,887
Blue Ridge	1,744
Brenham	145
Boling	1,064
Clay Creek	1,520
Damon Mound	665
DeWalt	12,112
Fannett	1,121
Goose Creek	4,324
Hankamer	1,426
High Island	1,440
Hull	9,677
Humble	16,272
Jasper County	20
Lost Lake	715
Markham	320
Nash	330
North Dayton	530
Orange	2,442
Orchard	1,915
Pierce Junction	9,528
Port Neches	1,665
Raccoon Bend	12,039
Refugio	36,772
Esperson (Sheeks)	2,070
Saratoga	1,036
Sour Lake	2,466
South Liberty	4,260
Spindletop	16,517
West Columbia	5,782
Total Southeast Texas	175,956
Week ending May 17	179,394
Decrease	3,438

SOUTH LOUISIANA

Anse La Butte	37
Bayou Blue	70
Bayou Boullion	131
Black Bayou	229
Edgerly	632
Jennings	869
Hackberry	3,307
Lake Barre	814
Lake Pelto	196
Lockport	2,521
Port Barre	2,184
Sorrento	181
Starks	450
Sulphur	5,000
Sweet Lake	105
Vinton	3,974
Welsh	134
White Castle	516
Total South Louisiana	21,170
Week ending May 17	22,328
Decrease	1,158
Total Gulf Coast	196,832
Week ending May 17	201,720
Decrease	4,887

Hankamar Production

At Hankamar, southern Liberty County, another new coastal field, Gulf Production Co. completed its fifth producer,

(Continued on Page 130)

GULF COAST FIELDS AND WILDCATS

Week Ended May 24

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 7 Barrow, southwest.. Pulling csg.; T. D. 5,642 ft.
Mills Bennett Production Co.'s No. 4 Wilburn, southeast.. Drlg. sandy shale 5,166 ft.
Mills Bennett Production Co.'s No. 10 Barrow, southwest.. Rigging up.
Mills Bennett Production Co.'s No. 3 E. W. Barber, north ..... Location.
Mills Bennett Production Co.'s No. 1 Gulf-Fisher, south... Drlg. oil sand 4,440 ft.
Mills Bennett Production Co.'s No. 8 Gulf-Higgins, southeast ..... Rig.
Mills Bennett Production Co.'s No. 2 Wilburn (workover).. Pulling screen to deepen 5,159 ft.
Fell & Thornton's No. 1 McLain ..... Rigging up to pump 2,140 ft.
Gulf Production Co.'s No. 3 Wilburn southeast ..... Coring oil sand 5,177 ft.
Gulf Production Co.'s No. 4 Wilburn, southeast ..... Set screen and tubing 5,135 ft.
Humhreys Corp.'s No. 1-F Barber, northwest ..... Pulling screen to deepen 6,492 ft.
Humphreys Corp.'s No. 9-A Kirby, northwest ..... Derrick.
Humphrey's Corp.'s No. 2-C Kirby (workover) ..... Hole bridged while drilling shale 4,531 ft.
Humphreys Corp.'s No. 1 Morgan ..... Fishing wash pipe 6,404 ft.
Humphreys Corp.'s No. 2 Scott ..... Drlg. shale and lime 6,508 ft.
Humphreys Corp.'s No. 1 C. Barber (workover) ..... To pump 5,240 ft.
Humphreys Corp.'s No. 2-H Kirby (workover) ..... Shut down waiting orders 5,312 ft.
Humphreys Corp.'s No. 3-H Kirby (workover) ..... Changing rigs 5,507 ft.
McAlbert Oil Co.'s No. 6 Woodward, east ..... Rig.
Sinclair Oil & Gas Co.'s No. 3 McKinney fee ..... Tested salt water 5,344 ft.; pulling screen.
Sinclair Oil & Gas Co.'s No. 4 McKinney Fee, southeast Derrick.
Sinclair Oil & Gas Co.'s No. 7 Wilburn, southeast ..... Fishing 4,685 ft.
Sun Oil Co.'s No. 5 Wilburn fee, southeast ..... Tested salt water 5,435 ft.; pulling screen.
Sun Oil Co.'s No. 6 Wilburn fee, southeast ..... Comp. pumping 280 bbls. fluid, 80 bbls. oil, 5,263 ft.
Sun Oil Co.'s No. 5 J. Wilburn, southeast ..... Drlg. oil sand 5,128 ft.
Sun Oil Co.'s No. 6 J. Wilburn, southeast ..... Rigging up to pump 5,218 ft.
Sun Oil Co.'s No. 7 J. Wilburn ..... Location.
Sun Oil Co.'s No. 5 Chambers, south ..... Drlg. gumbo 1,660 ft.
Sun Oil Co.'s No. 1 O. K. Winfree, west ..... Rigging.
The Texas Company's No. 4 Wilburn ..... Rig.
F. L. Thompson's No. 2 Wilburn, southeast ..... To pump 5,190 ft.
Yount Lee Oil Co.'s No. 14 Chambers, south ..... Drlg. lime 5,180 ft.
Yount Lee Oil Co.'s No. 3 Phillips, southeast ..... Set 5 joints screen 5,306 ft.; comp. flowing 1,450 bbls. oil, 27.6 gravity.
Yount Lee Oil Co.'s No. 4 Phillips, southeast ..... Rig.
Yount Lee Oil Co.'s No. 7 Woodward, southeast ..... Fishing drill pipe.
Yount Lee Oil Co.'s No. 1 Zadie Fisher, southeast ..... T. D. 6,929 ft.; plugged to 6,690 ft.; set screen 6,661 ft.; comp. flowing 2,085 bbls., 9 per cent salt water, first 24 hrs. on ½-in. choke; gravity 34.6 degrees.
Yount Lee Oil Co.'s No. 2 Zadie Fisher, southwest ..... Rig.
Yount Lee Oil Co.'s No. 5 Richardson, southwest ..... Rig.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 5 Bellville ..... Rig.
Humble & Valley's No. 1 Brown ..... Cmtd. csg. 144 ft.

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New Pool Opened in Lea County, N.M.

Located 9 Miles North of Production in Hobbs But May Be Part of an Immense Field. Activity Is General

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain area

DENVER, Colo., May 27.—The Rocky Mountain area was prolific with news this week. In New Mexico Fisher & Lowrie's No. 1 State, 9 miles to the west and north of the nearest producer in the Hobbs Pool in Lea County, flowed by heads and indicated that it would make 400 to 500 bbls. a day. The Humble Oil & Refining Co.'s No. 1 Bowers, in the Hobbs Pool, was connected with the new pipe line and made 4,464 bbls. in 24 hours through a five-eighths inch choke. It made as high as 7,500 bbls. per day in the course of this week. The Texas Production Co. and Continental Oil Co. made one location each in the Hobbs Pool. The Shell Petroleum Co. is preparing to build a casinghead gasoline plant. The Department of the Interior has lifted drilling restrictions in the Kutz Canon gas area in San Juan County and several drilling operations are getting under way. The Southern Union Gas Co. has purchased the properties of the Mesa Grande Gas Co. and the Durango Natural Gas Co. and secured an additional supply of gas from the Midwest Refining Co. and the Producers & Refiners Co.'s wells on the Ute Dome.

In Colorado a test is to be drilled in Perry Park in Douglas County for shale oil with several of the major companies acquiring spreads in the block. An important show of gas at 740 feet in the Dakota sand at the entrance to the Mesa Verde National Park in Montezuma County attracted considerable attention. Fire damaged the Raven Oil & Refining Co.'s refinery at Rangely.

Negotiations are pending for a pipe line in Fremont County to open the Maverick Springs Pool which has a shut-in production of 7,000 bbls. a day. Plans also include a railroad with the Government an active participant in the negotiations. Mountain Producers Corp. issued its annual report and the Osage Field in Weston County has a completion near the Jones gusher which made 150 bbls. natural in 24 hours.

The Salt Creek, Wyoming, deep test is almost ready to drill into the Madison lime and is showing a little oil. Wyoming had more than the usual number of completions reported.

NEW MEXICO

Hobbs Area—Lea County

The rapidity with which wells are being drilled, tankage erected and pipe lines contructed in the Hobbs area in Lea County, New Mexico, is causing serious concern as to the possibilities of a flood of flush production from the new pool. At the present time there are 31 wells drilling and 9 which are either locations or have spudded and are shut down. Most of these wells are being drilled in what is considered proven territory or territory that is but semiwildcat and many of them are expected to come in with large flush production.

The biggest well in the field, and the only one so far completed in its immediate vicinity, is the Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE, Section 30-18-38, which has been connected with the pipe line and is on production. It is making 7,500 bbls. per day. Eighteen of the wells under way are within a mile of this big producer. Three miles to the southeast are eight producing wells owned by the Midwest Refining Co., the Walker Oil Corp., the Ohio Oil Co. and the Shell Petroleum Corp. These wells are not so large and probably will average around 500 bbls. each. Between the No. 1 Bowers and this group of producers is an extensive area where the drilling is not so active, the Midwest controlling most of the ground and drilling only such offsets as are necessary. Nine wells to the west and a little north of No. 1 Bowers is the Fisher & Lowrie well which is showing for a producer. This outline gives some idea of the potential area of the pool, the limits of which have been found only in the extreme southeastern end.

Some idea as to what this pool may develop may be formed from statements that have been made concerning its possibilities. A competent authority says that the Hobbs Pool will have a potential of 200,000 bbls. a day within four months. That means a flood of oil is likely unless some steps are taken to control the situation. Strenuous efforts were made by some of the companies to prevent an unlimited drilling campaign, but obstacles were in the way which has handicapped these moves. The Atlantic Oil Producing Co. was one of the first to make a contract for the purchase of crude, it having contracted with the Amerada Petroleum Corp. for 3,000,000 bbls. The company is said to be in need of the oil and is building a pipe line from the Midland, Tex., tank farm to Hobbs. In the meantime it is constructing three 55,000-bbl. tanks, one of which is finished, and is about ready to commence storing oil. Connections are being made with the Midwest's wells in the southeastern area. The Humble company's pipe line is already completed into the field and is taking oil from that company's one producer. The Humble has decided to take the oil from its properties and has six wells either drilling or ready to drill, though most of them are idle at this writing. The Shell Pipe Line Co. has a third line projected into the field and is making surveys, but there is no definite information as to whether it will build. The Paso-Tex Pipe Line Co. is making surveys for an 8-inch line 33 miles north out of Winkler County, and while it is expected to go only to the Texas Pacific wells farther to the south, it will be within reach of the Hobbs Pool, should there be a demand for additional outlets. These factors build up a picture of an enormous potential production, pipe line outlets and no restrictive agreements in effect. It is believed in well informed circles that this situation either will force some agreement to prorate production, or that a cut in prices will follow. The present posted price is 92 cents for oil below 34 gravity and 95 cents for oil above that gravity. The Hobbs crude averages around 34 gravity and is "sweet" oil and desirable for refining purposes.

New Pool or Extension

Fisher & Lowrie's No. 1 State, NE cor. NW Section 11-18-36, located 9 miles to the west and north of the nearest producer in the Hobbs Pool, 13 miles south of Lovington and in a new district, is looked upon as one of the most important wildcats drilled in that area since the discovery well was brought in, as it means that a new pool has been discovered or that the Hobbs Pool covers an immense territory. The well is bottomed at 5,199 feet, at which depth it made several flows by heads. These flows indicate a production of 400 to 500 bbls. a day. The well is being killed to run and cement casing before completing. The oil tests 37° gravity and is a sweet crude that shows no sulphur. It showed for 250,000 feet of gas per day at 4,695 feet, the gas being sweet and wet. Then at 4,750 feet it ran into sulphur water and it was reported that the well would be abandoned. However, drilling was continued and an oil show was picked up at 4,995-5,000 feet. The elevation of the well is 3,804 feet and the top of the salt was at 2,065 feet. It was drilling in anhydrite and lime at 3,730 feet. The Honolulu Consolidated Oil Co. is reported to be heavily interested in the well and the Penn Oil Co. to have contributed to the cost of drilling. A big play in the area between this well and the Hobbs Pool as at present outlined and extending on towards the northwest and beyond Lovington, is in the making. Very little drilling has been done in that area. In 1927-28 the Exploration Co. drilled 10 miles to the southwest in its No. 1 Record, C NE Section 25-19-35. Its elevation was 3,690 feet. It topped the salt at 2,020 feet, the lime at 2,925 feet and was abandoned at 4,556 feet. The Penn Oil Co.'s No. 1 State, NE Section 21-19-36, was drilled in 1929. Its elevation was 3,859 feet. It topped the salt at 2,145 feet and was abandoned at 5,775 feet. The Vacuum Oil Co. drilled 13 miles northwest of the Fisher & Lowrie well in 1927 in its No. 1 State, CWL Section 13-17-34, and completed a producer at 4,900 feet making 120 bbls. initial.

The Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE Section 30-18-38, which was completed last January, was hooked up to the Humble Pipe Line Co.'s line, the first to reach the pool. The well came up to expectations and on May 8 made 2,051 bbls. in three hours through a three-eighths inch choke. It was then produced for 24 hours through a five-eighths inch choke and put 4,464 bbls. into the tank. Later it produced up to 7,500 bbls. in 24 hours. Two new locations were made the past week. The Texas Production Co.'s No. 1 Selman, 2,310 feet from the east and south lines of Section 15-18-38, has rig on ground. This location is immediately to the south of the several wells being drilled by the Prairie Oil & Gas Co. The Continental Oil Co.'s No. 1-A State, 1,650 feet from the south line and 1,650 feet from the east line, Section 29-18-38, is the other location. It offsets the Tidal Oil Co.'s No. 1 Grimes on the west.

The Midwest Refining Co.'s No. 30 State, SE, cor. SW, Section 10-19-38, is drilling at 2,810 feet in red rock and anhydrite. It bottomed the salt at 2,727 feet. The Walker Oil Corp.'s No. 2 Terry, SW cor. SE, Section 10-19-38, is drilling at 1,830 feet in salt and anhydrite. It topped the salt at 1,685 feet. The Midwest Refining Co.'s No. 13 State, SE NE NW, Section 15-19-38, cemented the 12½-inch at 1,647 feet. It topped the anhydrite at 1,590 feet. The same company's No. 1 State, NE cor. NW, Section 15-19-38, is drilling at 1,577 feet in red rock. The Prairie Oil & Gas Co.'s No. 1 Crump, NW cor. NE, Section 15-19-38, is drilling at 2,970 feet in lime and anhydrite. It had a show of gas at 2,904 feet and an increase in the gas at 2,925 feet. It bottomed the salt at 2,645 feet and topped the lime at 2,890 feet. The same company's No. 2 Crump, SW NW NE, Section 15-19-38, is drilling at 2,917 feet in lime and anhydrite. It had a show of gas at 2,903 feet and an increase at 2,917 feet. It bottomed the salt at 2,690 feet and topped the brown lime at 2,892 feet. The Prairie's No. 1 Selman, NW SW NE, Section 15-19-38, is drilling at 2,948 feet in lime and an-

(Continued on Page 107)

TURNER VALLEY WELL BLOWS IN WITH 15,000,000 FEET, 150 BARRELS

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, May 24.—In the South Turner Valley, Freehold Oil Corp.'s No. 2, LSD 8, Section 20-19-2w5, blew into production in the lime at 4,368 feet and is estimated good for 15,000,000 feet a day with around 150 bbls. crude naphtha recovery. With a 10-inch hole it is being carried deeper into the lime, and drilling around 4,373 feet. Location is 900 feet southeast of Home Oil Co.'s No. 3 producer.

In the same section, Calmont Oils' No. 2, LSD 11, which blew into production several weeks ago with a record initial wet gas flow from 4,977 feet, froze off before production test could be completed. The measured wet gas flow was 42,250,000 feet but the crude naphtha recovery was not determined. The hole has apparently bridged, and is being cleaned out.

In Section 20-19-2w5, Wellington Oils' No. 1, LSD 1, has partially restored wet gas production and is making around 150 bbls. a day on the separator while fishing for lost tools. Production comes from 258 feet in the lime at 4,915 feet.

In Central Turner Valley, Royalite Oil Co.'s No. 19, LSD 5, Section 6-20-2w5, is reported cleaning out after a shot in the lime at 5,020 feet. Before the shot the well was unofficially reported making not more than 7,000,000 feet of wet gas. Royalite's No. 15 is cleaning out at 3,047 feet; this was a small light crude producer at the shallow depth, and may be deepened to the lime.

In South Turner Valley, Wellington Oils' No. 1, LSD 1, Section 20-19-2w5, with tools in the hole, is reported to show crude naphtha recovery from the deep lime of around 300 bbls. a day.

Red Coulee Field

In the international Red Coulee Field, a string of tests on both sides of the Montana-Alberta boundary are getting close to the sand and the next two or three weeks should witness several completions, some of which may materially extend the proven field.

On the Montana end, Cosmos Petroleum Co.'s No. 1 Thacker, Section 2-37-4w, is the outstanding producer, putting from 350 to 454 bbls. a day into the line, other wells averaging under 100 bbls. Cosmos' No. 2 Thacker is spudded in just west of No. 1. Rice & Radigan Oil Co. is planning four tests this season. Monalta Oil Co.'s No. 2 Buckley, Section 1-37-4w, after cleaning and retubing made 148 bbls. in 18 hours. Mid-Continent's No. 3 Farby, NE, Section 2-27-4w, is rigging up. Ohio Oil Co.'s No. 1 Lucille, SW, Section 2-37-4w, a quarter mile west of Cosmos' No. 2, is rigged up. Adanac Oil & Gas Co., of Medicine Hat, Alberta, has purchased 440 acres from Charles L. Batcheller additional to the 320 acres previously secured. and No. 1, originally located in SW SW, Section 8-37n-3WPM, will likely be drilled in the E half NE, Section 12-37-4w, offsetting Monalta's No. 2 producer. Dakota-Montana Oil Co. has spotted a test in NW, Section 13-37-4w. Carnegie Petroleum, Ltd., of Calgary, will spud in next month on the

(Continued on Page 130)

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Long Beach Holds Key in California

Thought Success or Failure of Curtailment Work in State May Depend on Situation There Between Now and November

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., May 24.—The drastic cut in crude oil prices at Santa Fe Springs which the Standard Oil Co. posted May 17 is expected to clarify the local production situation to some extent as it indicates the adoption of a definite fixed policy with respect to future curtailment work. Heretofore the major companies have attempted to secure the help of independent producers in restricting crude oil production by mutual co-operation, but in the future, however, it is apparent from the Standard's statement, that disciplinary action in the form of price cuts will be probably used. This policy, while quite drastic, is expected to make enforcement work a little more effective and go a long way toward stabilization. The only disconcerting feature, and one to which all producers should give serious consideration, is the fact that this policy will ultimately lead to general demoralization if applied indiscriminately.

Long Beach holds the key to the success or failure of curtailment work between now and November 1. If this field gets out of line and the Standard is ultimately forced to initiate a drastic price cut, crude oil price schedules of every field in the State will be sympathetically affected sooner or later. This will be due to the fact that independent refiners and unethical jobbers able to purchase cheap refining crude at Long Beach will be in a position to reduce gasoline prices and force a general coastwise reduction. This is especially important because the price of crude oil is necessarily dependent upon the price received for refined oils. Gasoline prices naturally dominate prices paid for crude oil and consequently a weakening in the price structure of either commodity must necessarily be reflected in the other. It is quite obvious, therefore, that regulated production of crude oil and curtailment of refining operations will be decisive factors in determining the future status of economic conditions with respect to the oil industry.

Lower Production

Crude oil production in California during April was 9,858 bbls. per day below the output chalked up during March, and, while a further reduction is anticipated due to curtailment work, weekly estimates indicate that production during May will probably not show any great drop. It is quite likely, however, that unless some unforeseen development complicates the situation, production of crude in California during June, July, August, September and October will be considerably lower than at present. This probable reduction in crude oil production is predicated on the assumption that producers will continue aggressive curtailment work. A check of production figures during the month of April seems to indicate that a considerable part of the conservation work was more or less conversational in character. Long Beach, for instance, produced 99,421 bbls. per day in March and 103,283 bbls. per day in April, an increase of 3,862 bbls. per day, part of which may have been due to the completion of new wells during the period in question. The Elk Hills Field of Kern County also registered increased production, the daily average during April of 20,193 bbls. being 2,516 bbls. in excess of the output in March.

Elwood and Ventura Avenue both showed increased production during April due to the completion of new wells, the former being 4,966 bbls. higher than March daily production, and the latter 915 bbls. per day in excess of field production during the preceding month. Santa Fe Springs was the only field in the State to register a substantial decline during the past month. This was due both to curtailment work and the decline in flush production of the lower zones. During April Santa Fe Springs yielded 128,073 bbls. per day, as compared with 150,009 bbls. daily during March, a net reduction of 21,936 bbls. per day. Crude oil production at Kettleman Hills averaged 14,085 bbls. per day during April and 12,861 bbls. daily during the preceding month, March. This increase of 1,224 bbls. per day can be attributed to a completion of the Standard Oil Co., which concern was obliged to bring in a new well as an offset to No. 1 Felix of the Petroleum Securities, located just outside the area covered by the Kettleman Hills agreement. The Standard retarded the completion of its new well at Kettleman Hills for several weeks in the hope that the Petroleum Securities might be induced to shut in its producer but was finally obliged to complete the offset.

Storage Situation

The storage situation on the Pacific Coast was in a much more satisfactory condition at the close of April than it was at the end of the previous month, March, due to a draft on stocks of 1,777,619 bbls., although crude and refined oils storage at the end of April was 2,439,026 bbls. in excess of the amount on hand at the beginning of the current year. If producers succeed in reaching their objective of 596,003 bbls. per day, which was set as the maximum allowable production of the State between now and November 1, the storage situation should show a considerable improvement during this period. It is quite likely that during the summer months stocks will be reduced in excess of 2,000,000 bbls. per month if curtailment work is successful. During April stocks of both light and heavy crude were reduced, the former showing a reduction of 334,419 bbls. and the latter 925,009 bbls. Gasoline stocks were reduced 327,122 bbls. during the same period, while naphtha distillates, tops, increased 135,062 bbls. Other stocks, consisting of unfinished oils, mineral oils, kerosene and other finished oils, decreased 326,131 bbls. Total fluid stocks held on the Pacific Coast at the close of April aggregated 187,192,759 bbls., as compared with 184,763,733 bbls. on hand January 1, 1930, and 140,000,894 bbls. in storage January 1, 1929.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	68,690	9,813	.....	.....	146,095	328,410
Fuel oil	.....	.....	.....	.....	71,950	49,950
Diesel and gas oil	.....	.....	5,675	811	1,542,044	834,415
Gasoline	198,898	28,414	226,645	32,378	6,367,166	7,719,536
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	255,141	36,592	384,141	54,877	6,089,335	9,569,205
Fuel oil	260,019	37,146	297,010	42,430	6,643,177	8,479,044
Diesel and gas oil	21,491	3,070	64,126	9,161	737,981	631,425
Gasoline	307,099	43,871	157,231	22,462	4,291,730	4,081,863
Kerosene	.....	.....	1,018	145	53,527	20,271
Exports—						
Crude oil	44,775	6,396	178,652	25,522	2,430,006	1,832,871
Fuel oil	5,704	815	478,157	68,308	6,796,571	7,146,862
Diesel and gas oil	3,997	571	143,950	20,564	1,941,490	930,009
Gasoline	398,198	56,885	400,593	57,228	6,065,361	3,493,440
Kerosene	.....	.....	.....	.....	1,622,476	1,154,675
Lubricants	.....	.....	.....	.....	10,082	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	88,280	.....
Gasoline	.....	.....	.....	.....	440,188	1,050,732
Lubricants	.....	.....	.....	.....	2,946	.....
Coastwise—						
Fuel oil	.....	.....	84,112	12,016	1,482,805	911,689
Diesel and gas oil	1,740	249	9,941	1,420	136,143	284,312
Gasoline	84,171	12,024	70,932	10,133	1,572,239	1,584,819
Kerosene	5,022	719	.....	.....	111,371	43,824
Exports—						
Crude oil	.....	.....	.....	.....	3,075	121,603
Fuel oil	.....	.....	.....	.....	441,559	241,671
Diesel and gas oil	.....	.....	.....	.....	124,540	124,838
Gasoline	72,017	10,288	14,720	2,103	1,462,229	2,210,399
Kerosene	9,950	1,421	.....	.....	251,449	199,428
Lubricants	1,177	168	.....	.....	1,177	17,688

The concerted attempt to effect stabilization in California by crude oil curtailment is particularly interesting at the present time in view of deep zone exploration and extension work in proven fields. The importance which attaches to this lies in the fact that with one or two exceptions overproduction in California during the past few years has been due almost entirely to the discovery of new deep zones in proven fields and the extension of productive limits in other areas. This has been especially true at Santa Fe Springs where several additional zones were discovered by deeper drilling. The situation at Long Beach has been much the same although in this instance the substantial production developed in recent years has been due to a more intensive development of previously known horizons. During the past year drilling operations proved up the existence of substantial production in both the east and west ends of the Long Beach Field. This extension work followed on the heels of extensive deep zone exploitation during 1928. Development work in the eastern end of the Long Beach structure has just about been completed but drilling operations in the western or Los Cerritos section of the field is still an important factor in field production. Numerous new wells are being started in this area, and, while this work will not upset the production equilibrium, it should have a tendency to keep production of the Long Beach Field from registering any substantial decline.

The development of a town lot section in the Huntington Beach Field has also been an important factor in the overproduction situation during the past few years. This extensive work, following a dormant period as far as drilling operations at Huntington Beach are concerned, preceded initiation of the recent deep drilling campaign at Long Beach which got under way late in 1927. This is merely cited to show that extensive work and deep drilling in proven fields has been a vital factor in production during the past several years. More recently a new deep zone has been developed in the town lot section of the Potrero Field of Los Angeles basin, and, while several substantial flowing wells have been completed in this area during the past month or so, this field is not expected to register a large aggregate production.

New Horizon

During the current year the Standard Oil Co. proved up the existence of a new deep productive horizon below the 99 zone in the West Coyote Field of Los Angeles basin and incidentally substantially increased its proven reserve for future contingencies. With this new discovery, the Standard has two virgin zones at West Coyote, neither of which has yet been developed except for exploratory work. The 99 zone was discovered several years ago by two wells located approximately 2,000 feet apart. Only one well has been completed in the Emery zone but the company is drilling four other wells at the present time, one or more of which will probably be carried down to the new deep sand for exploratory purposes. Extension work in the Richfield district of Los Angeles basin has also resulted in the development of additional production, although producing wells in this area have been in the pumping class and therefore of no great importance. Elwood and Kettleman Hills are the only two fields of comparatively recent origin which have become factors of any importance in the production situation during the past few years. The former is yielding approximately 45,000 bbls. of crude oil per day at the present time, while production in the latter area approximates 14,500 bbls. daily.

The success which has attended deep zone exploitation and extension work in proven fields during the past few years is of particular importance in view of similar exploration work under way at the present time. It is not likely, however, that this type of work will prove to be as disturbing a factor in the future as it has in the past, although any one of several dormant fields known to have one or more deep zones is capable of precipitating a crisis if intensely drilled under competitive conditions. This group includes the Dominguez, Inglewood and Coyote Fields of Los Angeles basin and it is not at all improbable that deeper production may ultimately be developed at Montebello, Richfield and other areas.

There are several important deep tests being drilled in proven fields at the present time, any of which might have a tendency to jeopardize present curtailment work. One of the most important of these projects is the Pacific National Oil Co.'s No. 5 Machada in the Inglewood Field of Los Angeles basin. This well, a former upper zone producer, is being redrilled and deepened in search of deeper production. The significance which attaches to this deep test lies in the fact that a second zone is known to exist in the Inglewood Field and it only remains to be seen whether the structural position of the Pacific National Oil Co.'s property is sufficiently favorably located to permit economic development of this zone which other operators have refrained from developing. It is a little too early to say that this project may precipitate a drilling campaign in the Inglewood Field but it might not be amiss to watch the outcome very closely. Based on production contours of the first zone, the Pacific National's No. 5 Machada should develop deeper production. If this situation materializes, it will require extreme care to prevent the lid from blowing off in this field. The outcome of intensive competitive drilling would probably wreck present curtailment work and send crude and refined oil prices tobogganing. For this reason it is very probable that the Standard, Associated, Shell, Pacific Western and The Texas Company would make a determined effort to prevent any such oc-

currence. One of the most interesting features in connection with the deep test now being drilled by the Pacific National is the fact that these shallow wells can be drilled from spud to completion in approximately 30 days at a minimum cost. Wells producing from the first zone could be drilled into the second sand in a few weeks so that field production would show a substantial increase within a very short time under the stimulus of unrestricted drilling. Another important feature is the probability that subsequent drilling will reveal the existence of one or more zones in addition to the two already proved up. The seriousness of competitive drilling in the Inglewood Field is too well known to the larger companies vitally interested in that area for them to entertain any thought of engaging in promiscuous development. Before taking up the next deep test it might not be amiss to call attention to the fact that the Pacific National stands an excellent chance of getting deeper production unless sufficient pressure can be brought to bear to retard present drilling until a more propitious time.

The period of flush production is at an end as far as Santa Fe Springs is concerned from the grass roots down to the Clarke and Hathaway zones, but one cannot say definitely that deeper drilling in this field will not be successful. As a matter of fact, there is a good chance of developing another new zone if and when favorably located tests on the apex of the structure are carried on down. Several exploratory wells are already rotating ahead below the present deepest producing horizon. None of the various tests carried down in search of deeper production have been favorably located with respect to structure. Oscar Howard's No. 7 Hathaway, which failed to result in commercial production at 9,356 feet, is too far southwest to prove a conclusive test, and, while The Texas Company's No. 10-A Patterson is located considerably better structurally, it, too, is somewhat removed from the axis of the structure. The Wilshire's No. 4-A Baker, another deep test, is also located at some distance from the apex. No. 10-A Patterson of The Texas Company at 9,058 feet, and No. 4-A Baker of the Wilshire, at 8,803 feet, although not located as favorably as might be desired with respect to structure, may ultimately result in the discovery of a new deep zone at Santa Fe Springs as each project has cored an oil sand. Their chief obstacle up to the present time has been the inability to shut off water. This is a mechanical condition, however, susceptible of correction. As the situation stands at the present time, all indications point to the ultimate discovery of production below present known horizons. It is quite likely, however, that any new zone found will be more or less limited from a production standpoint because of its extreme depth and the fact that a large part of wells can be expected to develop mechanical trouble before reaching 9,000 or 10,000 feet.

The Superior Oil Co. has gone back into the Torrance Field, where it has several large leases, and will attempt to prove or disprove the existence of deeper production. The Torrance Field is one of the few fields where only one productive zone was encountered. Several deep tests have been drilled in this field up to the present time but none of them condemns the area to be tested out by the Superior. The Huntington Beach Field of Los Angeles Basin will probably also be tested out at several points before operators are definitely convinced as to subsurface conditions. This field presents a very complex situation as it is quite broken up by faulting so that a deep test in one area would not necessarily preclude the development of production in another section blocked off by a fault. The Barnsdall is working on an interesting test in the southwestern part of the Huntington Beach Field, having acquired the Borchard property several months ago. Preparations are being made at the present time to deepen the Barnsdall's test which is down 5,596 feet with an 8⅝-inch water string landed and cemented at 5,520 feet. The Standard has been working on a deep test in the Wheeler Ridge Field of Kern County for several months, and, while a successful test in this field would not necessarily be reflected in immediate production, it would of course increase the Standard's future ultimate recovery. No. 36 on Kern County Land Co. Lease No. 2 in this field has been bottomed at 7,150 feet with a 4½-inch oil string carrying 431 feet of perforated already landed preparatory to an early test.

Long Beach

T. J. Cannon's No. 2 Hall-Weber, which came in flowing last week and subsequently sanded up, has been recompleted flowing 761 bbls. of 29.2 gravity oil daily from 7,326 feet. This well was the largest producer finished in the Long Beach Field during the past seven-day period. J. W. Cochran's No. 2 Signal, another completion in this field during the current week, was good for 208 bbls. of 28.3 gravity oil initially from 6,788 feet. The Continental's No. 2 Modoc was somewhat of a disappointment upon completion as it was only good for 118 bbls. of clean 28.2 gravity oil per day. This project was originally carried down

(Continued on Page 125)

SHIAWASSEE TOWNSHIP COMPLETION MAY MEAN NEW FIELD IN MICHIGAN

By a Staff Correspondent

MUSKEGON, Mich., May 26.—One of the most important developments in Michigan this spring and the week's outstanding oil news of the State is the completion of a commercial producer in Shiawassee Township, Shiawassee County, near Corunna. This well, not far from wells of several years ago near Owosso which made some gas and oil, is O. L. Barnebey's No. 1 John Galloway, NW NE, Section 11-6n-3e.

It has a gas flow strong enough to produce the well without pumping but it is still difficult to estimate how much it will make later on regular production. It is probable that it will be at least a 50-bbl. well. Traverse limestone was topped at 1,760 feet and the well is now about 1,800 feet deep after being drilled 12 feet into the pay sands.

Possible development of a fourth productive oil field in Michigan is seen as a result of the success of this well. It is about 50 miles southeast of the proven Mount Pleasant Field in the east central section of the lower peninsula of the State.

Mount Pleasant Field

Four new producers averaging 125 bbls. each initial production added a total of 500 bbls. a day to the output of the Mount Pleasant Field. The largest was the Pure Oil Co.'s No. 1 E. Elmer Depuy, NW NE SE, Section 13-14n-3w, Chippewa Township, Isabella County. Dundee limestone was topped at 3,520 feet and pay sand was struck at 3,550 feet. When completed at 3,587 feet the well flowed 198 bbls. initial. The Pure company's No. 5-B State-Isabella, NW SE, Section 2-14n-3w, Chippewa Township, flowed

(Continued on Page 130)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Union, No. 1 Orchard Dale, Los Angeles Co.	10- 3-11		rig	rigging up
Clearwater Oil Co., No. 1 Bellflower, Los Angeles Co.	21- 3-12	5,197		br. sh. drilling
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	3,394		sd. sh. drilling
Diller, W., No. 1 Watts, Los Angeles Co.	8- 3-17	6,280		gr. sd. drilling
Crimson Pet., No. 1 Compton, Los Angeles Co.	22- 3-13	130		suspended
Ohio, No. 1 Moneta, Los Angeles Co.	35- 3-14	4,970		sd. sh. drilling
Guahome Oil Co., No. 1 El Nido, Los Angeles Co.	33- 3-14		mtl.	building rig
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525		suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14		rig	rigging up
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14		rig	rigging up
Republic Pet., No. 1 Hawthorne, Los Angeles Co.	10- 3-14		mtl.	building rig
Rio Grande, No. 1 Watson, Los Angeles Co.	17- 4-13	5,630		gr. sd. drilling
Shell, No. 1 Van Nuys, Los Angeles Co.	19- 2-15	2,660		sd. sh. drilling
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820		suspended
West Amer. Pet., No. 1 Puente, Los Angeles Co.	14- 2-10		mtl.	building rig
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	3,660		suspended
Bardeen Pet., No. 1 Puente, Los Angeles Co.	9- 2-10		mtl.	building rig
Sherman, J. W., No. 1 Puente, Los Angeles Co.	33- 2- 8	850		suspended
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,120		gas well
Marcel Pet. Co., No. 1, Puente, Los Angeles Co.	31- 2- 8	2,070		hd. sd. drilling
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,950		suspended
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	4,442		sd. sh. drilling
Consolidated Oil Co., No. 1 Newhall, Los Angeles Co.	8- 3-16	1,894		sd. sh. drilling
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	1,248		sd. sh. drilling
Pioneer Pet., No. 1 Newhall, Los Angeles Co.	14- 3-16	2,838		suspended
Union, No. 1 Coyote, Sansinena, Los Angeles Co.	30- 2-10	3,475		br. sh. drilling
Tureco Oil Co., No. 1 Whittier, Los Angeles Co.	29- 2-11	2,978		sd. sh. drilling
Western Gulf, No. 1 Brea Canyon, Los Angeles Co.	28- 2- 9	4,500		br. sh. drilling
Vaqueros Major, No. 1 Huntington Tideland, Orange Co.	32- 5-11			location
Standard, No. 1 Bastanchury, Coyote, Orange Co.	21- 3-10	5,580		br. sh. drilling
Graham & Loftus, No. 1 Coyote, Orange Co.	18- 3- 9	3,421		hd. sd. drilling
Union Oil Co., No. 1 Richfield, Orange Co.	13- 3- 9	4,450		hd. sd. drilling
Simmel, L. G., No. 1 Yorba Linda, Orange Co.	21- 3- 9	1,254		hd. sd. drilling
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910		suspended
Hall, H. L., No. 1 Newport, Orange Co	20- 6-10	790		sd. sh. drilling
Standard, No. 1 Newport, Orange Co.	26- 6-10		rig	rigging up
Fidelity Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701		cleaning out
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,560		suspended
Imperial Valley Oil Co., well No. 1, Imperial Co.	32-11-10	2,980		suspended
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,260		sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	13-13- 4	2,414		hd. sd. drilling
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	2,400		gr. sd. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 3	2,525		fishing
Duncan, N. L, No. 1 Mohave, San Bernardino Co.	8- 4- 6		rig	suspended
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	1,549		suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	4,600	tested wet
Universal Consd., No. 1 Pt. Conception, Santa Barbara Co.	30- 5-34	2,464	sd. sh. drilling
Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co.	15- 7-35	2,890	hd. sd. drilling
Vaqueros Oil Co., No. 1 Purisima, Santa Barbara Co.	5- 7-33	1,611	sd. sh. drilling
Fields Gasoline Co., No. 1 Santa Maria, Santa Barbara Co.	8- 9-33	3,448	sd. sh. drilling
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	1,530	br. sh. drilling
Duell Pet. Co., No. 1 Santa Ynez, Santa Barbara Co.	9- 7-30	2,417	hd. sd. drilling
Carey, A., No. 1 Goleta, Santa Barbara Co.	1- 4-28	2,880	suspended
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	fishing
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,160	sd. sh. drilling
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 143 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	50	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
Macmillan Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	1,900	sd. sh. drilling
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29		mtl.	building rig
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	612	sd. drilling
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	40	suspended
Frazer & Oliver, No. 173 Capitan, Santa Barbara Co.	4- 4-30	101	suspended
Indian Pet., No. 174 Capitan, Santa Barbara Co.	4- 4-30	330	sd. drilling
McLaine, W. L., No. 175 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Durkee, R. S., No. 176 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Cunningham, W., No. 177 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Oakburn Oil Co., No. 168 Capitan, Santa Barbara Co.	4- 4-30	370	suspended
Oakburn Oil Co., No. 169 Capitan, Santa Barbara Co.	4- 4-30	200	suspended
Oakburn Oil Co., No. 170 Capitan, Santa Barbara Co.	4- 4-30	1,302	shut in
Oakburn Oil Co., No. 171 Capitan, Santa Barbara Co.	4- 4-30	300	suspended
Oakburn Oil Co., No. 172 Capitan, Santa Barbara Co.	4- 4-30	325	suspended
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	4,531	fishing
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	3,075	br. sh. drilling
Standard, No. 1 Casitas, Santa Barbara Co.	26- 4-25	2,618	hd. sd. drilling
Continental, Tideland permit No. 121, Santa Barbara Co.	33- 4-25	101	sd. drilling
Continental, Tideland permit No. 122, Santa Barbara Co.	33- 4-25	870	sd. sh. drilling
Continental, Tideland permit No. 123, Santa Barbara Co.	33- 4-25	316	sd. sh. drilling
Continental, Tideland permit No. 124, Santa Barbara Co.	33- 4-25	4,700	sd. sh. drilling
Continental, Tideland permit No. 124-A, Santa Barbara Co.	33- 4-25	418	suspended
Continental, Tideland permit No. 125, Santa Barbara Co.	33- 4-25	120	rigging up
Continental, Tideland permit No. 126, Santa Barbara Co.	33- 4-25	200	rigging up
Continental, Tideland permit No. 127, Santa Barbara Co.	33- 4-25	412	sd. sh. drilling
Continental, Tideland permit No. 128, Santa Barbara Co.	33- 4-25	255	sd. sh. drilling
Continental, Tideland permit No. 129, Santa Barbara Co.	33- 4-25	246	sd. sh. drilling
Exeter Oil, Tideland permit No. 163, Santa Barbara Co.	32- 4-25	76	suspended
Getty, George F., No. 129 Carpinteria, Santa Barbara Co.	32- 4-25	1,040	sd. sh. drilling
Getty, George F., No. 130 Carpinteria, Santa Barbara Co.	32- 4-25	793	sd. sh. drilling
Shell, No. 5 Oxnard, Ventura Co.	14- 2-20	402	deep test
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	8,529	redrilling
Prairie Oil & Gas, No. 1 Ventura, Ventura Co.	30- 3-22	4,457	redrilling
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	2,268	cleaning out
Fennell, E. A., No. 1 Lankershim, Ventura Co.	13- 4-19	1,660	cleaning out
General Pet., No. 1 Fillmore, Ventura Co.	6- 3-19	1,830	sd. sh. drilling
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	1,890	hd. sd. drilling
Calleguas Synd., No. 1 Camarillo, Ventura Co.	6- 1-20	900	suspended
Camarillo Synd., No. 1 Camarillo, Ventura Co.	33- 2-20	380	basalt
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21		mtl.	building rig
Milham Explin., No. 9 Buttonwillow, Kern Co.	8-28-23	4,990		pipe bad
General Pet., No. 1 Buttonwillow, Kern Co.	6-28-23	2,706		will deepen
Shell, No. 1 Lerdo, Kern Co.	23-28-26	2,814		sd. sh. drilling
Nordon Exp. Co., No. 1 Buttonwillow, Kern Co.	7-29-24	135		suspended
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	4,440		hd. sd. drilling
Shell, No. 1 Edison, Kern Co.	33-29-29	4,460		hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	34-29-29	2,130		suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,220		cleaning out
Helen Pet., No. 1 Jasmine, Kern Co.	23-25-27	2,220		suspended
Shell, No. 1 Semitropic, Kern Co.	17-27-23	1,697		sd. sh. drilling
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	505		hd. sd. drilling
Bardeen, H. A., No. 1 San Emidio, Kern Co.	18-10-23	960		cleaning out
Bardeen, H. A., No. 2 San Emidio, Kern Co.	10-10-23	1,970		sd. sh. drilling
Stabler, W. W., No. 1 Commanche Pt., Kern Co.	4-11-13		mtl.	building rig
Richfield, No. 1 Kreyenhagen, Fresno Co.	33-22-16	111		suspended
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	3,680		cleaning out
Knudsen, John, No. 1 Jacalitos, Fresno Co.	14-21-14	1,800		gr. sd. drilling
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	7,320		suspended
Fresno Madera Oil Co., No. 1 Clovis, Fresno Co.	18-12-21	4,372		sd. sh. drilling
Rio Grande, No. 1 Kerman, Fresno Co.	35-13-16	4,901		sd. sh. drilling
Western Gulf, No. 1 Penoche Valley, Fresno Co.	26-15-12	5,000		sd. sh. drilling
Panorama Oil Co., well No. 1, San Luis Obispo Co.	7-31-21	4,019		fishing
Libby Pet., No. 1 Shandon, San Luis Obispo Co.	31-27-15	4,483		hd. sd. drilling
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,930		hd. sd. drilling
Union, No. 1 King City, Monterey Co.	8-22- 8	3,250		suspended
Standard, No. 1 King City, Monterey Co.	23-22- 7	4,340		fishing
Pacific Inland Oil Co., No. 1 Parkfield, Monterey Co.	19-23-15	181		suspended
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	4,310		fishing
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338		suspended
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,664		cleaning out
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	3,380		hd. sd. drilling
Barnhart Trust, No. 1 Oakdale, San Joaquin Co.	3- 2-10	3,340		sd. sh. drilling
Orinda Pet., well No. 1, Contra Costa Co.	32- 1- 3	575		sd. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	4,020		suspended
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	900		suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	646		sd. drilling

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GENERAL OFFICES: HOUSTON, TEXAS

Western Penn Pool Test Is Promising

May Extend Production a Mile and Lead to Proration for Pool. Andrews County Holds Interest of Operators

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., May 26.—Andrews County now controls the interest of those operating in the Permian Basin, although a western Penn Pool test in Ector County is attracting plenty of attention due to the fact that it is running much higher than the wells now producing in the pool and is showing up for a producer while drilling below 3,532 feet. It topped the highest salt in the pool, topped the brown lime at 3,042 feet and the white lime at 3,195 feet, and had the first showing of gas at 3,040 feet, with another at 3,295 feet and an increase at 3,465 feet, but making only enough gas to flow the well by heads as drilling progressed. Top of the pay was logged at 3,475 feet with an increase marked at 3,485 feet and a further increase at 3,495 feet, where it started filling up and filled the hole in six hours. At present the hole is full of oil and slopping over.

This test will extend present production 1 mile west, toward the old producers of The Texas Company and Cosden Oil Co. in Section 13, making the intervening acreage look almost sure for production. As a result, companies owning acreage to the west of the University sections will probably stake locations immediately, although if this is done, and a line of producers are brought in on the western side of these sections, as was the line along the eastern side, the pool may be looked to receive some sort of proration to help curb further drilling. Proration has already been mentioned for the pool, but as the wells have been choked to around 13,500 bbls. per day, with pipe line facilities to handle such an amount, no steps have been taken to cut the production, but as the daily average production increases, desires for proration will increase until the Railroad Commission is asked to intervene and a proration umpire named to take charge of the field.

Northern Limit Defined

The northern limits of the field have been unmistakably defined by the Independent Oil & Gas Co. and Tidal Oil Co.'s No. 1 Scharbauer (Eidson) test in Section 6, Block B-15, and the Texas Pacific Coal & Oil Co.'s No. 1 McKenzie does not give much encouragement to operators in its direction, although many believe good producers will be brought in to the southwest. It is in the SE of Section 28, Block 45, three-quarters mile northwest of the independent test, which is shut down at 3,800 feet, making about three-fourths of a bailer of oil per hour.

The Texas Pacific test is also shut down at same depth as last week, 3,775 feet, after a 220-quart shot in lime from 3,720-75 feet. It is swabbing about 3 bbls. per hour, and will be bottomed at this depth to await results of the Skelly Oil Co. and Tidal Oil Co.'s test, which is a south offset, and has considerable drilling to do before it will get down to gas or oil showings.

Deep Rock Oil Co. and others' No. 1 King in Section 11, Block A-46, south offset of the discovery well, which is the first production found in Andrews County, is standing at a total depth of 4,379 feet with a hole full of oil, and ready for completion. This test obtained its first oil showing at 4,290 feet, and topped the pay at 4,335 feet, striking an increase at 4,347 feet, where it started to fill with oil and assured the owners of the second producer of the pool.

The same company's No. 1 Miles, 1½ miles southwest of production, is also shut down after encountering an estimated 1,000,000 feet of gas at 4,163-72 feet, and showing of oil at 4,240 feet. This test is in Section 22. No. 1 Mathis, belonging to the same companies, is another test which is shut down to condition the hole for completion. It is in Section 4, about 1¾ miles east of the producers. First oil showings in this well were logged at 4,188 feet.

Irion County Completion

Carl Cromwell's No. 2 Nutt, Subdivision 6, Gonzales County School Lands, Irion County, was completed for 125 bbls. initial this week, pumping through 2½-inch tubing. This is by far the best well yet completed in the county, and the owner has made a location for No. 1 Tankersley, 150 feet from the north and 2,490 feet from the east of Section 1,230, 2½ miles southwest of this producer, which will be an interesting test as it will possibly extend production of this shallow pool to that extent and in that direction. Gravity of the oil from this good producer is 39.0.

The California Co. cleaned out and tested No. 1 Allen in Section 90, Block 1, W.&N.W., north offset of the Independent Oil & Gas Co.'s No. 1 Wheat, the eastern extension well of the Wheat Pool, Loving County, and the well averaged 122 bbls. per day for seven days after a 160-quart shot from 4,274-4,315 feet. Total depth is 4,315 feet. Top of pay was encountered at 4,274 feet. The Paso-Tex pipe line, which runs near this pool, will probably carry production from this well to the Paso-Tex refinery at El Paso. A short connecting line will no doubt be laid from the well to the trunk line at once.

Ward County Showing

Tex Oil Producing Co.'s No. 1-A Redmond in Section 162, Block 34, H.&T.C. Survey, in the western part of Ward County, was shot with 140 quarts from 4,047-77 feet and the hole bridged. After cleaning out the hole and drilling out the bridge, fluid rose 1,500 feet in the hole, 65 per cent of which was water. Top of the black lime in this well was hit at 5,037 feet and the Delaware was encountered at 5,070 feet. Although this test may not come through as a producer, this showing will undoubtedly create other activity in this area, and other tests may find production in commercial quantities from the Delaware, possibly on intervening acreage between this test and the Wheat Field which lies several miles to the southwest in Loving County. The Wheat Field produces from the Delaware sand.

Timberlake and others' No. 1 Meek in Section 7, Block 34, Township 3-S, T.& P. Survey, 6 miles southwest of the McDowell producer in Section 21, Glasscock County, created considerable excitement when it encountered a good showing of oil from 2,987-91 feet below where sulphur water was encountered, and although the test looked like a duster when the water was hit, the showing has made the owners more encouraged, and it will be carried deeper. Several dry holes have been drilled on acreage between this test and the McDowell producers, consequently the two areas cannot be linked together by production, but the pay formations can be correlated, and a small pool like the McDowell Pool may be opened by the Timberlake well.

OFFICERS OF NATIONAL OIL SCOUTS ASSOCIATION

Officers of the National Oil Scouts Association of America elected at the closing session of the seventh annual convention in San Antonio. From left to right they are: G. C. Phillips, of California Co., San Angelo, Tex., second vice president; J. E. Beall, of Gulf Production Co., San Antonio, secretary and treasurer; J. V. Adams, of the Humble Oil & Refining Co., San Antonio, president; W. E. Whitcomb, of the California Co., San Angelo, chairman of the executive committee; and John Langston, of the Sun Oil Co., Dallas, who was elected first vice president, was not present.

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended May 26

ANDREWS COUNTY

Company, farm and location—	Remarks—
Deep Rock Oil Co. et al's No. 1 Mathis, 900 ft. from S and W, Sec. 4, Blk. A-46, Public School Land	Top salt 1,730 ft.; shut down 4,188 ft.; show oil 4,166 ft.; increase 4,173 ft.; estimated 1,500,000 feet gas at 4,185 ft.
Deep Rock Oil Co.'s No. 1 Miles, 990 ft. S, 1,650 ft. E of NW cor., Sec. 22, Blk. A-46, School Land	2,000,000 ft. gas at 2,913-16 ft.; shut down 4,270 ft.; show oil 4,240 ft.; 1,000,000 ft. gas at 4,163 ft.
Fuhrman Pet. Corp.'s No. 1 Ford, 440 ft. from S and 2,200 ft. from W of Sec. 16, Blk. A-43, Public School Land	Drlg. 3,175 ft.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, School Blk. A-46	Top salt 1,697 ft.; show oil 4,290 ft.; shut down 4,380 ft.; 4,100 ft. oil in hole; top pay 4,335 ft.; increase 4,347 ft.
R. R. Penn's No. 1 Wilson, C, Sec. 20, Blk. A-37, School Blk.	Drlg. 1,720 ft.
BREWSTER COUNTY	
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,250 ft.; hole full water 1,135-85 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.&S.F. R.R. Sur.	Show oil 1,830 ft.; shut down 2,345 ft.; casing cemented.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,750 ft.
COKE COUNTY	
Arkansas Fuel Oil Co.'s No. 1 Stepp, 1,020 ft. NE. 2,340 ft. W of SE cor., Sec. 35, Blk. 1-A, H.&T.C. Sur.	Drlg. 3,080 ft.
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 3,050 ft.
CONCHO COUNTY	
Beesley et al's No. 1 S. Waring Est., 1,320 ft. from S and E of A. T. Robinson Sur., Abst. 2,120	Machine.
Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R. Sur.	Spudded and shut down.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock	Shut down 735 ft.

(Continued on Page 110)

West Texas Production

County—	Wells	Prod.
Andrews	1	167
Crane	344	34,015
Crockett	46	1,600
Ector	28	13,688
Fisher	7	920
Garza	5	48
Glasscock-Howard	507	36,120
Jones	73	1,355
Loving	20	1,305
Mitchell	144	2,335
Pecos	454	118,095
Reagan	259	16,394
Runnels	3	18
Scurry	5	14
Taylor	2	90
Upton	251	8,855
Ward	25	1,615
Winkler	602	74,435
Total this week	2,776	311,236
Total last week	2,772	316,515
Difference	4	5,279

Runs Through Trunk Lines

Company and destination—	Bbls.
Atlantic, Houston	28,078
Gulf, Ranger	36,101
Humble, San Angelo	30,862
Humble, (Station "A")	35,665
Illinois, Del Rio	30,629
Magnolia, De Leon	22,038
Paso Tex, El Paso	11,013
Shell, Healdton	42,711
Shell, Houston	21,683
Texas, Houston	22,007
Total	280,792

Runs to West Texas Refineries

Company and destination—	Bbls.
Amarillo Ref. Co., Pyote	1,425
Big Spring Ref. Co., Big Spring	1,138
Burford Ref. Co., Pecos	5,729
Bluebonnett Ref. Co., Wickett	1,585
Cosden Ref. Co., Big Spring	6,382
Col-Tex Ref. Co., Colorado	6,722
Great Western Ref. Co., Big Spring	3,431
Humble Oil & Ref. Co., McCamey	4,467
Richardson Ref. Co., Big Spring	....
Tonkawa Ref. Co., Pyote	2,000
Wickett Ref. Co., Wickett	140
Total	33,019

Tank Car Shipments

	Bbls.
Landreth Prod. Co. from Crossett	274
Thomas & Brann from Grant City	210
Orient from McCamey	90
Southern Crude O. P. Co., Wickett	30,377
Total	30,951
Total daily average distribution	344,762
Total daily average production*	325,331
Daily average from storage	19,431

*Including Lea County, New Mexico.

Yates Extended to West

The Transcontinental Oil Co.'s No. 3 Sellman, in Section 7, Block 2, T.C.R.R. Survey, 1 mile west of No. 1-A Sellman

(Continued on Page 66)

Gray County Boosts Panhandle Total

Prairie Completes Two, Adding 6,965 Bbls. Archer, Wilbarger and Young Counties Active. Hood County Wildcat Gets Gas

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., May 26.—Gray County added several good producers to its flush production areas this week, Hutchinson County registered several large gas wells and small oil wells and Carson County produced four small wells, the total of all of them adding to the daily average production of the Panhandle and helping to keep that area in a threatening attitude in regard to overproduction, taxing the pipe lines to the limit, and providing an oversupply for the refineries in the district.

The Humble Oil & Refining Co. drilled its formerly completed No. 2 Combs-Worley, Gray County, deeper from 2,808 feet to 2,828 feet and increased the production from 3,800 bbls., the first initial amount, to a new initial of 5,215 bbls., which again tends to remind the operators in the area what deepening may do to the wells already producing, and in what chaotic state the pools may be thrown if deepening is resorted to on a large scale by all the companies and operators drilling and producing in the pool.

Gray County Boost

The Prairie Oil & Gas Co. completed two good producers for a total of 6,965 bbls., thereby adding a large amount to the daily average of Gray County, and helping to boost the Panhandle production for the week.

Archer, Wilbarger and Young Counties are the most active in the Wichita Falls district, and many new locations are made in these counties each week, as also in Wichita County. Many completions are also witnessed in all four counties each week, but Young County leads in both completions and locations, especially in the Olney and Graham areas where drilling progresses at an extremely rapid rate. Several wells in the Graham Pool are about due for completion, and the area has been exceptionally active since the completion of Nash and Windfohr's No. 1 McCloud for a 24,000-bbl. well. It has now settled to around 3,350 bbls. of oil and 2,000 bbls. of water per day. It is producing from the deeper pay sand found in the pool, below 3,500 feet.

Gulf Production Co.'s No. 1 Donald, the test in southwestern Cooke County which has been quite interesting since it encountered oil showings and produced around 90 bbls. of oil, is underreaming 8-inch casing at 2,900 feet with a hole full of water, and the present status of the well is not as encouraging as it has been.

Faith Oil Co.'s No. 1 Bugg, 2½ miles east of No. 1 McDonald, remains shut down at 1,327 feet with about 100 feet of oil in the hole, and this test does not look as promising as first judged.

Hood County Wildcat

In Hood County, Ranger district, the Standard Oil Co. of Texas encountered an estimated 5,000,000 feet of gas in its No. 1 Cogdell, in the Thomas Robinson Survey, 3 miles northwest of Thorp Springs. Top of the gas sand was struck at 2,490 feet. This test is several miles east of the nearest production which is in Erath County, and is in absolute wildcat territory. It will probably be deepened in an effort to pick up an oil sand or an increase in gas, but the showing already made merits more testing of surrounding acreage, and other tests may be expected to go in as soon as this well is completed.

In Shackelford County, 2 miles west of Albany, Gillman and McMurray completed their No. 1 Herron in Section 10, Block 11, T.&P. Survey, for an initial production of 240 bbls. after a 10-quart shot. Production later fell off to 90 bbls. Top of the Lower Tannehill sand from which the well is producing is 912 feet and total depth is 922 feet. It is an extension of production, approximately 1 mile.

The Humble Oil & Refining Co.'s No. 1-A Kennard, in the SE, Section 10, E. T.R.R. Survey, 2 miles southwest of production in Section 23, Callahan County, had an oil show in the Lower Tannehill sand at 1,287 feet and is showing up as a possible producer, and although it cannot extend production due to a dry hole in Section 11 between the two areas, it may open another small producing pool in the Tannehill sand in this part of the county.

Sun Oil Co.'s No. 2 Milburn, 300 feet south and east of its No. 1 in the Jasper DeGuire Survey, topped the pay at 1,199 feet and was bottomed at 1,202 feet producing an initial of 47 bbls., thereby helping to connect production of the Bulcher Pool on the southeast and the Kewanee Pool on the northwest.

WICHITA FALLS COMPLETIONS
Week Ending May 24

Archer County

Hutchinson's No. 1 fee, dry and abandoned at 1,405 feet. Litchfield and others' No. 1 White, dry and abandoned at 1,459 feet. Bridwell Oil Co.'s No. 3 Fails, oil show 1,345 feet, initial production 103 bbls., total depth 1,364 feet. Burns and others' No. 2 Du Bose, dry and abandoned at 1,432 feet. L. T. Burns' No. 9 Fails, oil show 1,381 feet, total depth 1,382 feet, initial production 33 bbls. oil and 19 bbls. of water. L. T. Burns' No. 10 Fails, oil show 1,364 feet, initial production 45 bbls. oil and 3 bbls. of water, total depth 1,374 feet. Burns & Long's No. 3 Symank, oil show 1,414 feet, initial production 30 bbls., total depth 1,429 feet. Burns' No. 3 and others' No. 1 Portwood, dry and abandoned at 1,500 feet. F. P. Cullum's No. 3 Falls Co. fee, top pay 1,122 feet, initial production 25 bbls., total depth 1,140 feet. E. B. Madden's No. 1 Kimkel, dry and abandoned at 1,381 feet. Vigil Oil & Gas Co.'s No. 7 Harmel, oil show 1,421 feet, shot 10 quarts from 1,421-31 feet, initial production 28 bbls., total depth 1,431 feet.

Clay County

Dawson and others' No. 2 Applegate and others, dry and abandoned at 1,589 feet.

Baylor County

Consolidated Oil Co.'s No. 17 Portwood, oil show 1,378 feet, initial production 225 bbls., total depth 1,407 feet. Perkins & Cullum's No. 1 Mills, dry and abandoned at 1,455 feet. Perkins & Cullum's No. 1 Portwood, dry and abandoned at 1,450 feet.

Cooke County

Danciger Oil & Refining Co.'s No. 1 Cannon, dry and abandoned at 1,504 feet. Sun Oil Co.'s No. 3 Milburn, dry and abandoned at 1,215 feet.

Haskell County

Kouri-Shaheen and others' No. 1 Reynolds Land & Cattle Co., gas sand 1,457-75 feet, initial production 4,000,000 feet of gas, total depth 1,500 feet.

Jack County

Panhandle Refining Co.'s No. 5 Eaton & Daniels, oil show 3,068 feet; shot with 30 quarts 3,067-80 feet; initial production 70 bbls.; total depth 3,094 feet. Panhandle Refining Co.'s No. 5 Smith, dry and abandoned at 3,645 feet. Republic Production Co.'s No. 1 Kinder, gas sand 3,225 feet; initial production 2,500,000 feet of gas; total depth 3,245 feet.

Montague County

Hunter Oil Corp.'s No. 1 Henley, dry and abandoned at 1,971 feet.

Wichita County

Arkansas Fuel Oil Co.'s No. 31 Kemp & Kempner, oil show 1,749 feet; initial production 45 bbls.; total depth 1,766 feet. Comac Drilling Co. and others' No. 1 Neal, dry and abandoned at 1,795 feet. Culberson Co.'s No. 66 Waggoner, dry and abandoned at 1,666 feet. Events Drilling Co.'s No. 1 Moeller, dry and abandoned at 2,208 feet. Omohundro and others' No. 24 Pace, was dry and abandoned at 1,826 feet.

Wilbarger County

Fain & McGaha Oil Corp.'s No. 20 Waggoner, oil show 2,288 feet and 2,295 feet; initial production 140 bbls.; total depth 2,326 feet. Grayback Development Co.'s No. 1 Hawkins-Waggoner, dry and abandoned at 2,770 feet. Phillips Petroleum Co.'s No. 3 Waggoner, oil show 3,393 feet; total depth 2,403 feet; initial production 20 bbls. Phillips Petroleum Co.'s No. 23 Waggoner, oil show 2,277 feet; initial production 30 bbls.; total depth 2,293 feet. Sigler Oil Co.'s No. 1 Waggoner, dry and abandoned at 2,740 feet. The Texas Oil Co.'s No. 371 Waggoner, dry and abandoned at 2,515 feet.

NORTH TEXAS PRODUCTION
Week Ending May 24

Panhandle district—	Bbls.
Carson County	9,287
Hutchinson County	23,250
Gray County	72,470
Moore County	470
Potter	9
Wheeler County	740
Total this week	106,226
Total last week	104,182
Increase	2,044
Wichita Falls district—	
Archer County	19,240
Baylor County	1,220
Clay County	730
Cooke County	3,770
Foard County	200
Jack County	3,780
Haskell County	45
Montague County	6,565
Throckmorton County	1,200
Wilbarger County	23,670
Young County	19,555
Wichita County	25,301
Total this week	105,276
Total last week	106,315
Decrease	1,039
Ranger district—	
Brown County	6,845
Callahan County	3,980
Coleman County	4,220
Comanche County	375
Palo Pinto County	625
Eastland County	5,620
Shackelford County	6,630
Stephens	6,150
Total this week	34,455
Total last week	33,521
Increase	934
Grand total this week	245,957
Grand total last week	244,018
Increase	1,939

Young County

Carey and others' No. 3 Larol, oil show 635 feet; initial production 10 bbls.; total depth 650 feet. Hunter Oil Corp.'s No. 1-C Bloodworth, oil show 1,046 feet; initial production 370 bbls.; total depth 1,075 feet. C. J. Klinem's No. 1 Logan, dry and abandoned at 875 feet. L. A. Long's No. 1 Garvey Brothers, dry and abandoned at 814 feet. E. B. Madden's No. 2 fee, dry and abandoned at 1,092 feet. Nimrod Oil Co.'s No. 2 Hall, oil show 882 feet; initial production 15 bbls.; total depth 887 feet. Panhandle Refining Co.'s No. 3 Lowe, oil show 563 feet; initial production 40 bbls.; total depth 651 feet.

Perkins & Cullum's No. 11 Dunagan, oil show 1,061 feet; initial production 210 bbls; total depth 1,078 feet. Remington's No. 4 fee, oil show 681 feet; initial production 20 bbls; total depth 685 feet. E. R. Riggs' No. 4 Larimore

(Continued on Page 65)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending May 26

CARSON COUNTY

Company, well, farm, name, section and block—	Remarks—
Danciger O. & R. Co.'s No. 1 Block, 330 ft. N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur.	S.D. 2,985 ft.
Danciger O. & R. Co.'s No. 1 Byrum, 990 ft. N, 330 ft. W, SW, Sec. 188, Blk. 3, H.&G.N. Sur.	Drlg. 2,851 ft.
Cockrell-McIlroy Oil Co.'s No. 1 Eller, 330 ft. S and W, NE cor. NW, Sec. 200, Blk. 3, I.&G.N. Sur.	Drlg. 3,450 ft.
Cockrell-McIlroy Oil Co.'s No. 1 Simms, 330 ft. S and E, E 140 ac., N 160 ac., S 320 ac., Sec. 11, Blk. 7, I.&G.N. Sur.	43,000,000 ft. gas 3,110-35 ft; drlg. 3,165 ft.
Empire G. & F. Co.'s No. 1 Archer-B, 330 ft. N and E, SW cor. SW, Sec. 139, Blk. 3, I.&G.N.R.R. Sur.	Location.
Empire G. & F. Co.'s No. 2 Fields, 990 ft. N and W, Sec. 13, Blk. 4, I.&G.N. Sur.	Drlg. 2,180 ft.
Gibson Oil Corp.'s No. 1 Moore, 990 ft. N, 330 ft. E, N½, SE, Sec. 20, Blk. 7, I.&G.N. Sur.	Drlg. 350 ft.
Humble O. & R. Co.'s No. 2 Combs-Worley, 330 ft. S, 240 ft. E, NW cor. N½ SE, Sec. 36, Blk. 3, I.&G.N. R.R. Sur.	Location.
McClintock et al's No. 2 Garner, 330 ft. W and S of E 55 ac. of N 80 ac., NW, Sec. 105, Blk. 4, I.&G.N. R.R. Sur.	Drlg. 2,895 ft.
Phillips Pet. Co.'s No. 1 Pickens, 990 ft. E line, 330 ft. N line, NE cor., Sec. 31, Blk. 7, I.&G.N.R.R. Sur.	Drlg. 2,425 ft.
Prairie O. & G. Co.'s No. 2 Nail, 330 ft. N and W lines, N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	10,000,000 ft. gas 2,830-2,985 ft.; C.O. 3,193 ft.
Shamrock O. & G. Co.'s No. 1 Thompson, 330 ft. S and W lines, E 80 ac., NE, Sec. 5, Blk. 7, I.&G.N. Sur.	T.D. 3,026 ft; running csg; 17,000,000 ft. gas 2,755 ft.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. N and E, SE, Sec. 199, Blk. 3, I.&G.N. Sur.	Drlg. 2,620 ft.
Skelly Oil Co.'s No. 19 Schafer, 330 ft. N, 990 ft. E, SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur.	6,000,000 ft. gas 2,895-2,970 ft.; drlg. 3,219 ft; swbng. 67 bbls.
Suloch Oil Co.'s No. 1 Bost, 990 ft. S, 330 ft. E, SW, Sec. 1, Blk. S.&F.	Drlg. 2,274 ft.
Sweeney et al's No. 1 Locke, 164 ft. N and W, 40-ac. tr. along R.R. in Sec. 57, Blk. 7, I.&G.N. Sur.	Spudding.
Texas Interstate P. L. Co.'s No. 1 Burnett, 1,320 ft. N, 660 ft. W. of W 480 ac., Sec. 99, Blk. 5, I.&G.N. Sur.	Fishing 1,990 ft.
Texas Interstate P. L. Co.'s No. 1 Sanford, C NW NE, Sec. 4, Blk. 3, A.B.&M. Sur.	Drlg. 2,770 ft.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 Slemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur.	S.D. 510 ft. for csg.

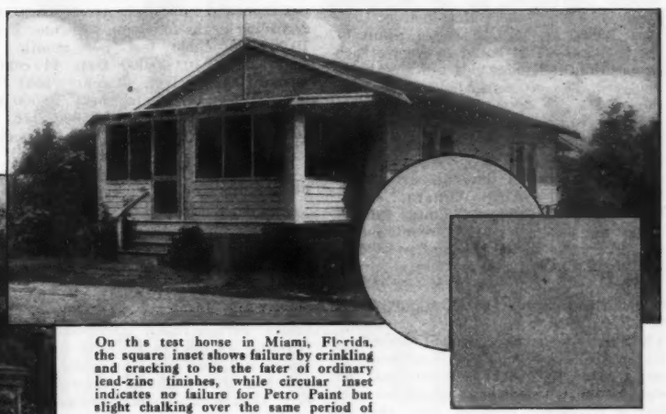
CHILDRESS COUNTY

Continental Oil Co. and Sun Oil Co.'s No. 1 Johnson, 660 ft. NE, Sec. 580, Blk. H, W.&N.W. Sur.	Drlg. 3,250 ft.

(Continued on Page 109)

Why do some PAY LESS for UP-KEEP?

Du Pont Petro Paint insures long life and good appearance of lease houses, plant buildings and equipment. . . . . .



On this test house in Miami, Florida, the square inset shows failure by crinkling and cracking to be the fate of ordinary lead-zinc finishes, while circular inset indicates no failure for Petro Paint but slight chalking over the same period of time.

In Flint, Michigan, other du Pont test houses were painted with both types of finishes. Here again ordinary lead-zinc failed by cracking though not to such a marked degree — see square inset. Notice in circular inset the superior whiteness and absence of cracks and crinkles on the Petro Paint surface.

OIL companies have found another way to keep maintenance costs from soaring. They use du Pont Petro Paint.

White Petro Paint is a finish that stays white longer in spite of field and refinery atmospheres. It gives buildings and lease houses an improved appearance for a longer period of time. It is ideal, on wood and plaster and also on all types of metal surfaces. If ever a paint has been designed to meet the general needs of the oil industry, it is du Pont Petro Paint.

You too can pay less for up-keep on buildings and equipment. For Petro Paint is a special product, formulated by du Pont chemists to meet the ordinary needs for the protection of surfaces in or near the refinery or out in the field.

Petro Paint contains three pigments, combined in balance to assure a perfect film . . . lithopone, zinc oxide, titanium oxide. Its vehicle consists of a careful blend of treated and untreated oils. Its drying qualities are controlled by a new and balanced drier.

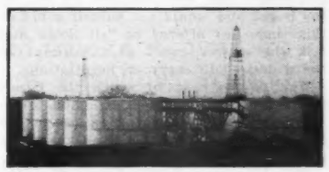
Resists sulphur fumes

The film qualities of its balanced pigment make Petro Paint unusually resistant to sulphur fumes and aqueous vapors. The hardness of the zinc oxide, the softness of the lithopone, the controlled chalking of titanium, make for greater durability under any condition. This means fewer repaintings and lower maintenance costs.

Petro Paint is an all-purpose paint that works easily over wood, plaster, concrete and metal. It dries unusually well even under drying conditions that are not ideal. It also spreads farther and hides stained surfaces better than ordinary paints.

Curtails evaporation

When White Petro Paint is used on tanks it keeps evaporation at a minimum because the perfected pigment combination holds its whiteness longer and reflects the heat waves instead of absorbing them. Petro Paint cuts the cost of up-keep for your tankage by affording longer, more economical protection to the metal and reducing evaporation losses.



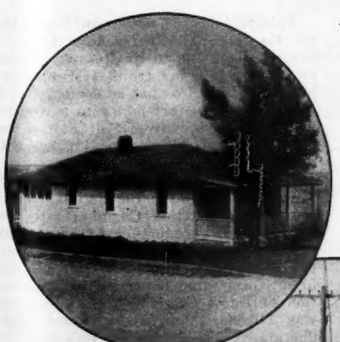
Petro Paint retains its whiteness and cleanliness and remains highly reflective of heat waves. On tankage, this means curtailed evaporation.

Better surface for repainting

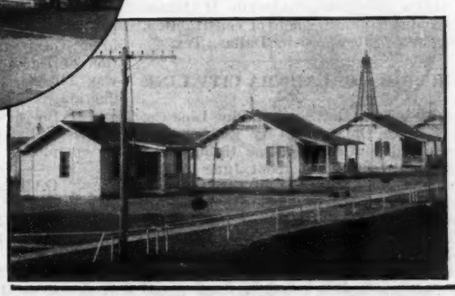
The balanced pigment combination does not crinkle up or crack. The surface is still smooth when repainting time does arrive. That means lower costs for labor and paint because less paint is needed on the job. Petro Paint is available in a wide selection of colors for use whenever color is desired.

Write for technical bulletin

Technical Bulletin No. 4, "Petro Paint for the Petroleum Industry," tells the complete story of this all-purpose paint's advantages upon which this page has barely touched. If you would like to open the way now to low costs of upkeep on your buildings and equipment, write to E. I. du Pont de Nemours & Co., Inc., Petroleum Sales Division, Dept. OG 52, Independence Square, Philadelphia; 2100 Elston Ave., Chicago; 351 California St., San Francisco.



This test house is in Louviers, Colorado, where du Pont is testing the reactions of several types of finishes to climatic conditions of the west.



In Lop, Oklahoma, where sulphur fumes soon destroy ordinary paint films, Petro Paint remains a long while unaffected.

Other du Pont Products for the Petroleum Industry

PRIMERS AND SPECIAL FINISHES
ASPHALT CHROMATE EMULSION, anti-corrosive for pipelines.
ALUMINUM PAINT VEHICLES
TANK CAR FINISHES
ANTOXIDE and other metal, structural and storage paints.

DU PONT
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"Save the surface and you save all"—Perry Island

PETRO PAINT

Pipe Line Construction News

Three Companies Bid On Omaha Contract; Fourth Ready to Talk

By Special Correspondent

OMAHA, Neb., May 26.—Three bids for furnishing the city of Omaha with natural gas for the next 20 years were received by the Omaha Metropolitan Utilities Board on May 23, as a result of the proposal of the board to receive such proposition and these bids are now being analyzed. The successful bidder must run the gauntlet of a municipal election before the contract awarded the successful bidder becomes operative.

The three bidders were Missouri-Kansas Pipe Line Co., the Missouri Valley Pipe Line Co. and the Western Natural Gas Corp. The Missouri-Kansas Co. accepted the specifications and requirements of the Omaha board, the other bidders departing somewhat from these specifications.

The Cities Service-Insull-Standard Oil of New Jersey-The Texas Company-Phillips Petroleum-Skelly Oil-Columbian Carbon combination, which has been figuring with the board for the past 60 days or more, submitted a statement saying it could not possibly meet the requirements and specifications set out by the board and would not submit a bid at this time, but offered to "sit down and talk the matter over" at any time the board desired to carry on negotiations.

The requirement to which the Cities Service combination most strenuously objected was the depositing in escrow of $1,000,000 in securities to guarantee performance of contract.

The bids are slightly lower than the bids turned down in the city election in 1928.

The bid of the Western Natural Gas Corp. departed in some measure from the board's specifications, while the bid of the Missouri Valley company was largely on its own specifications. When asking for bids the board let it be known that deviation from specifications would not disbar any bidder, but that all bids would receive consideration.

Bonds, or certified checks for $250,000 accompanied each of the three bids as a guarantee that should the bid be accepted, contracts would be carried out.

Both the Missouri-Kansas and the Western companies submitted alternative bids. One offer took into consideration the providing by the gas company of $1,500,000 for extensions and enlarging of Omaha's distribution system. The other bid was based on the city doing its own enlarging and extending of the mains.

Proposals in Detail

The bids by blocks were as follows: Western Natural Gas Corp., Thomas R. Weymouth, president, a subsidiary of the American Natural Gas Corp.: (If the district main extension is financed to the extent of $1,500,000), First 50,000 cubic feet, 44.5 cents; next 2,950,000 feet, 30 cents; next 12,000,000 feet, 22 cents; next 35,000,000 feet, 20 cents; next 50,000,000 feet, 18 cents; all over 150,000,000 feet, 17 cents; gas unaccounted for, 18 cents. If the district main extension is not financed, first 50,000 feet, 40 cents; next 2,950,000 feet, 30 cents; Next 12,000,000 feet, 22 cents; next 35,000,000 feet, 20 cents; next 50,000,000 feet, 18 cents; next 50,000,000 feet, 18 cents; all over 150,000,000 feet, 17 cents; gas unaccounted for, 18 cents.

Missouri-Kansas Pipe Line Co.: (If main extension is financed) First 50,000 feet, 45 cents; next 950,000 feet, 35 cents; next 2,000,000 feet, 28 cents; next 12,000,000 feet, 22 cents; all monthly consumption over 15,000,000 feet, 19 cents; gas lost, 25 cents. If the main extension is not financed: First 50,000 feet, 43½ cents; next 950,000 feet, 33 cents; next 2,000,000 feet, 26½ cents; next 12,000,000 feet, 21 cents; all monthly consumption over 15,000,000 feet, 18½ cents; lost and unaccounted for gas, 25 cents per thousand cubic feet.

Missouri Valley Pipe Line Co.: Domestic rate for first year, 30 cents per thousand cubic feet; second year, 35 cents per thousand cubic feet. After this a rate according to the following schedule: First 10,000,000 cubic feet per month, 45 cents; next 10,000,000 feet, 44 cents; next 10,000,000 feet, 43 cents; next 10,000,000 feet, 42 cents; next 10,000,000 feet, 41 cents; next 10,000,000 feet, 40 cents; next 10,000,000 feet, 39 cents; next 10,000,000 feet, 38 cents; all in excess, 37½ cents per thousand; gas unaccounted for, 25 cents.

The Missouri Valley company is already building a pipe line from Stevens County, Kansas, to Omaha and on into Iowa. The other companies which submitted bids will have to build special lines to care for the Omaha business should either receive the contract. The Cities Service-Insull group is already building a line from Texas to Chicago which will pass close to Omaha and from which a main could be thrown into this city should that company receive the contract.

TEXAS-CHICAGO LINE DUPLICATED NEXT YEAR

By B. E. V. Luty

PITTSBURGH, Pa., May 26.—The 280-mile line pipe order reported three weeks ago as booked by National Tube Co. from Cities Service Co. represents part of the Texas to Chicago natural gas line, and another 200 miles is also in hand awaiting arrangement of some minor details, making 480 miles National will furnish for the line, the balance, substantially as large an amount, presumably going to A. O. Smith Corp. of Milwaukee, Wis. This is all 24-inch. As reported a week ago National booked from the Missouri-Kansas Pipe Line Co. 350 miles of 24-inch and 325 miles of 22-inch, together with a tonnage of smaller sizes. There are also some other orders not mentioned in detail.

On all sizes above butt weld National is now fully booked for some time to come and additional orders it may accept will depend upon ability to arrange sufficiently extended deliveries. Yet National for the near future will have a much larger capacity than has been commonly supposed as new units are near completion. Early this year it completed the 24-inch seamless mill at Gary, Ind., the 24-inch seamless mill at Lorain, Ohio, is now about complete and the similar mill at McKeesport, Pa., is nearing completion, while the electrical welding plant at McKeesport is within a month or so of completion. The large diameter pipe mentioned will be part seamless and part electrically welded, chiefly the former. Some of the smaller sizes will be lapweld.

While all details are not available it is understood the large line pipe in seamless or electrically welded will generally run five-sixteenths-inch wall, which makes a weight of 79 pounds per foot or about 208 net tons per mile. The entire Texas to Chicago main line, say 950 miles, would thus take almost 200,000 tons, apart from gathering lines and other adjuncts, while a duplicate line is to be laid next year, on the same right of way, taking about 200,000 tons more.

Demand for standard or merchant pipe, almost entirely butt weld, is increasing seasonally, but at a slow rate. All this year it has lagged well behind last year and now it is lagging more because while it has increased in the past couple of months it has increased at a slower rate than the seasonal increase of a year previous.

There are occasional rumors of a little shading in standard pipe prices but at the most the cases are regarded as exceptional and confined to certain areas. Mills do not admit there are any irregularities worth noticing.

Prices are decidedly unsteady in several finished steel lines and cannot be quoted closely. The general trend continues slightly downward.

SOUTHERN UNION GAS PROGRAM OF EXPANSION

The Southern Union Gas Co. of Delaware, the holding company of the Southern Union Gas Co. of Texas, Arkansas Western Gas Co., Southern Union Gas Co. of New Mexico, and the Gas Co. of New Mexico, is busy on an expansion program. A $1,600,000 pipe line was completed from the Clarksville, Ark., Field to serve Fayetteville, Springdale, Rogers, Gentry, Siloam Springs, Bentonville and other towns and cities of northwest Arkansas and is operating as the Arkansas Western Gas Co.

The Gas Co. of New Mexico turned gas into the city mains of Clovis and Portales, N. Mex., and Farwell, Tex., this spring. The Southern Union Gas Co. of New Mexico is already supplying gas to Farmington, and franchises were recently granted Southern Union for Albuquerque, Santa Fe and Las Vegas, N. Mex. This system will require 312 miles of main line to serve the three cities. The gas will be piped from San Juan Basin, and it will be a tedious task, the rights of way must be marked and flagged on pack mules. Pipe liners are reporting daily and construction should be under way very shortly.

On May 12, the Southern Union Gas Co. of Texas opened four new towns in South Texas, bringing the number of towns served in that section to nine. The four new towns are Sealy, Navasota, Columbus and Eagle Lake.

The Pioneer Gas Utilities Co., another division of Southern Union, is operating extensively in Oklahoma. The Nichols Hills addition in Oklahoma City is served by this unit, as are many small communities adjoining Oklahoma City.

The Kingfisher County Gas Co., operating in Kingfisher, Hennessey and Dover, Okla., is another subsidiary of Southern Union.

Almost 75 per cent of the entire Southern Union system was completed during the past year. At the present the Southern Union is operating in over 40 towns and cities of the Southwest, serving a population that numbers almost 200,000.

The Southern Union Gas Co. is a Murchison Brothers interest, with C. W. Murchison, president; Kenneth Murchison, secretary-treasurer, and T. F. Murchison, of Chicago, in charge of finances. Walter Reid is vice president, general manager of Southern Union, and Edgar T. Walters is vice president in charge of operations. Woffold Cain is also a vice president, while M. Ulmer is general superintendent of construction. The main offices are in Dallas, Tex.

SINCLAIR'S OKLAHOMA CITY LINE

A 10-inch line of Sinclair Pipe Line Co. from south Oklahoma City Field to the north and south trunk line through the State will be finished about June 1. The company has placed an order with Youngstown Sheet & Tube Co. for 4,000 tons of pipe for 37 miles of line, which will parallel the present carrier from the field. With the new line, the company will have a total pipe line outlet from the field amounting to 60,000 bbls. daily.

Line to Indianapolis From Texas Announced By Missouri-Kansas Co.

CHICAGO, May 27.—Announcement was made today by Missouri-Kansas Pipe Line Co. that contracts have been released for immediate construction of a $40,000,000 natural gas pipe line, 1,250 miles long, running from the Panhandle Field in Texas to Indiana, by way of Kansas City; Springfield, Ill.; Terre Haute and Indianapolis, and connecting with the company's Kentucky pipe line system at a point near Evansville, Ind.

Frank P. Parish, president of the Missouri-Kansas Pipe Line Co., made the following statement in connection with the building of the line:

"The Illinois Power & Light Corp. and the Missouri Power & Light Co., subsidiaries of the North American Light & Power Co., have already contracted with the Panhandle Eastern Co., subsidiary of Missouri-Kansas Pipe Line Co., for the purchase of natural gas for all the cities in Illinois and Missouri which they now are serving with artificial gas."

Mr. Parish added that necessary financing has been arranged for, and construction already has been started at two points on the line in Texas and Missouri. Additional gangs are being put to work at several other points, assuring completion by December 1 of this year.

"Approximately $25,000,000 worth of pipe and other material has been ordered from the National Supply Co. of Toledo, Ohio. Construction contracts for this project will provide work for several thousand men."

DARST CREEK FIELD TO GET NEW PIPE LINE

HOUSTON, Tex., May 27.—Another pipe line outlet for the Darst Creek Field of Guadalupe County has been assured with the announcement of the Gulf Pipe Line Co. that it will lay an 8-inch line from that field to Crosby, east of Houston where the line will connect with the company's line to Sour Lake and Lucas. From Crosby to Sour Lake an additional 8-inch loop will be laid making the total new line to be laid to be approximately 200 miles.

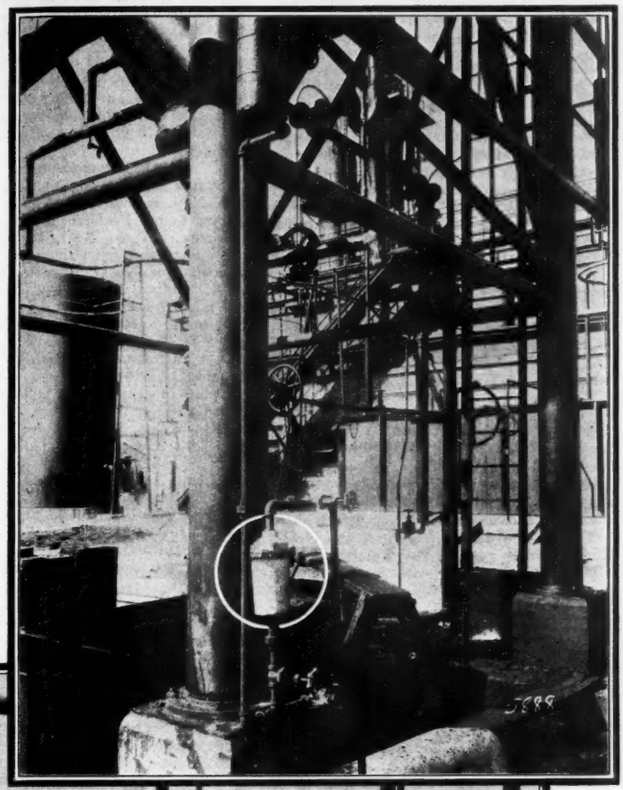
For the present only one pump station will be provided that to be at the field. With just this station for the distance from Darst Creek to Crosby the line will have a capacity of 10,000 bbls. daily.

This will be the fifth pipe line outlet for the field. The Texas Pipe Line Co. has a 6-inch line to its Rosanky station on its West Texas trunk system. Humble Pipe Line Co. has a combination 6 and 8-inch line extending to a connection with its line from Salt Flat to the Coast. Magnolia Pipe Line Co. has a 4-inch line.

Decision of the Gulf Pipe Line Co. to lay this line follows the building up by the Gulf Production Co. of a rated potential daily production of more than 55,000 bbls., on which basis the company's daily allowable production is figured. Total rated potential daily production of Darst Creek at the latest gauge was 245,864 bbls. As the prorated production is based on the pipe line capacity the new line will permit an increase in the daily allowable production on completion of the line.

GAS LINE TO MOBILE

The A. O. Smith Corp. has received an order for 115 miles of 16 and 18-inch gas line pipe, immediate delivery, from the Southern Natural Gas Corp. for its extension to Mobile.



Steam line to agitator drained by Armstrong Trap, Burford Refinery, Pecos, Texas.

Of what other traps do you find this true?

All these advantages you'll find true of Armstrong inverted bucket traps for steam, gasoline, air, and special services:

—foolproof operation . . . they operate for years without attention.

—absolutely no airbinding . . . air and incondensible gases discharged at the top.

—no clogging from scum or sediment . . . the trap is self-scrubbing.

—small and self contained . . . the trap can be supported by connecting pipes.

—no wire drawing . . . valves are made of heat treated chrome steel.

—no steam leakage . . . the trap is always water sealed.

—large capacity . . . greater than most traps of much larger size.

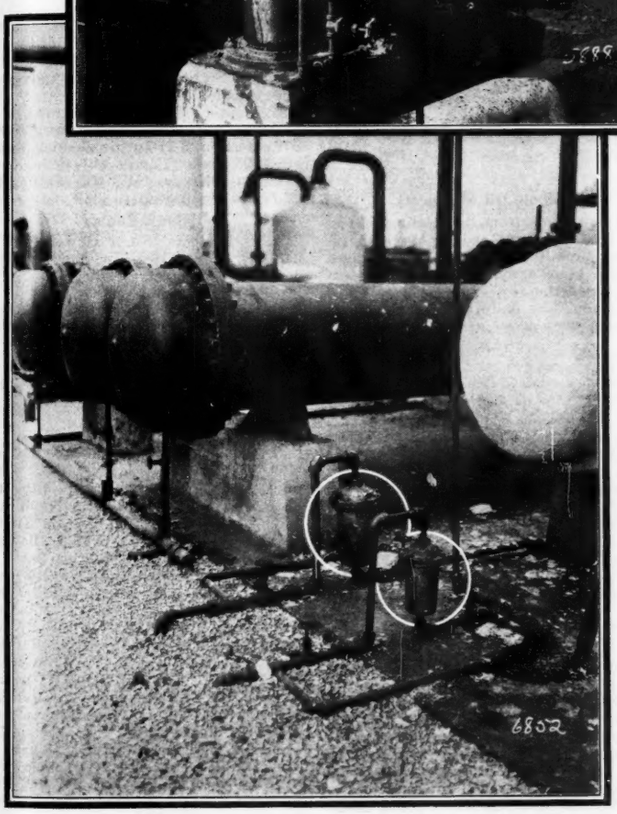
—very low maintenance cost . . . the average repair cost for 2,000 installations was 3½ cents a year each.

—made in sizes and types for pressures to 1500 lbs. and any degree superheat (and for greater pressures if desired).

—serviced by a nation-wide organization, with stocks in principal cities.

—guaranteed by a company that has specialized on traps alone for 19 years.

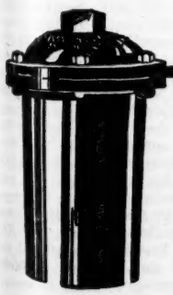
—sent on free 90 days trial (on as many traps as desired) without obligation. You can test them on your hardest service; at the end of the period return them collect. To make this test just fill out and return the coupon.



Armstrong Traps on preheaters, Gasoline Plant at Oklahoma City. (Indian Territory Illuminating Oil Co.)

Armstrong Machine Works
Three Rivers, Michigan

District Representatives in 42 Cities



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For _____ (Size and make of machine)
Size of Pipe _____ Steam Pressure (Max.) _____
☐ *Send Catalog* from ARMSTRONG MACHINE WORKS
THREE RIVERS, MICH.

OGJ 5-29 Gray

OKLAHOMA FIELDS

(Continued from Page 44)

& Gas Co. These companies plan to drill several deep wells in this pool to test the Wilcox sand and the Silicious lime. Production had been found only in the shallow sands until last summer when a new producing horizon was opened around 3,400 feet.

In Southern Fields

In the Palacine area in Stephens County, Magnolia Petroleum Co.'s No. 2 Jones-Christy, SE cor. NW NW, Section 15-2s-6w, swabbed 88 bbls. of oil in 12 hours from sand at 2,170-81 feet. Some express the opinion that it may be an edge well.

In Jefferson County, O. V. Beck's No. 9 Seay, NE cor. SE SW, Section 34-6s-5w, a new producer in the Oscar district, swabbed 760 bbls. of oil the first 24 hours. The pay horizon was found at 1,490-1,530 feet.

Three new wells were added to the northeast side of the Walters Field in Cotton County. Baldwin and Sultan's No. 4 Patterson, SW cor. NW NW, Section 1-2s-10w, flowed 70 bbls. at 2,188-2,203 feet. Cullum & Perkins' No. 1, CNL SW SW, Section 1-2s-10w, pumped 40 bbls. from the pay at 2,222-30 feet. Barnsdall Oil Co.'s No. 7 Lawler, SW cor. SE SW, Section 33-1s-10w, Cotton County, was completed for 3 bbls. from 2,245-59 feet. The territory to the south was partly defined by the Margay Oil Co.'s No. 1 Flannagan, SW cor. NE NW, Section 12-2s-10w, which is shut down at a total depth of 2,300 feet with nothing showing.

Non-Inflammable Gas

Mid-Kansas Oil & Gas Co. found approximately 500,000 feet of noninflammable gas in a core drill test in Section 5-27-10w, Alfalfa County. The gas has little odor and is colorless and attempts to burn it have failed. The gas was found at a total depth of 270 feet. It is not known whether it has helium content or not. The test is shut down and may be abandoned.

Chaplin Oil & Refining Co. has a showing of oil on the edge of the Garber Pool in Garfield County. The hole is caving and delaying the completion of the well. No. 1 Gibson, SW cor. SE SE, Section 25-23-4w, was cleaning out with a showing of oil at 5,162-5,208 feet. Some estimate the showing at 125 bbls. a day, with a small amount of gas. Shell Petroleum Corp.'s No. 1 Loomis, C NW NW, Section 32-25-4w, west of the Garber Pool, was drilling out cement plugs at a total depth of 5,584 feet. The test had a showing of gas before the casing was cemented.

Greater Seminole Area

Shell Petroleum Corp.'s No. 1 Caesar, NW cor. SE SE, Section 20-6-6, in the Konawa Pool, in southern Seminole County, gave indications of being the largest Cromwell sand producer ever drilled in Oklahoma. It increased its flow to such proportions while being given its potential gauge that it was shut in after flowing 15 hours. It made 10,310 bbls. in 15 hours, and was then shut in because of inadequate tankage and pipe line facilities. The largest hourly flow was 834 bbls. Production from the pool the same day, May 23, was 19,832 bbls. from 47 wells. Many of the wells completed in the pool are shut in for the proration period.

Extension North of Earlsboro

Another extension to the north of the Earlsboro Pool was found by the Dixie Oil Co. and Amerada Petroleum Corp. in their No. 1 Alexander, SE cor. NE, Section 36-10-5, Seminole County. It cored Misener sand with a showing of oil at 4,045-49 feet. The test may be drilled deeper to the Wilcox sand. It was located by the use of the seismograph and is considered to be structurally high. No oil was found in the Cromwell sand, which has been the case in other tests drilled in the vicinity. The test may result in the opening of another flush area in the Seminole Field.

Southwest of the Earlsboro Pool, a semiwildcat test was showing oil and gas, Lippa Drilling Co. and Tidal Oil Co.'s No. 1 Kelly, NE cor. SE NW, Section 19-9-5, southwest of Earlsboro, in Pottawatomie County. The oil showing is in the Hunton lime which was topped at 4,067 feet, and the oil at 4,076-86 feet. The first time the bailer was run, 500 feet of oil was found in the hole. Later the bailer was run and found 3,500 feet of oil in the hole.

Oklahoma City's Shut-In Production

The initial shut-in production of wells in the Oklahoma City Pool that have been allowed to produce for 24 hours or less as of May 24 and are now shut in was 453,951 bbls., and the initial production of the shut-in wells and the dates each will be opened for its regular producing period follows:

Company, lease—	Well No.	Bbls.	Date
I. T. I. O.:			
Wilke-Anderson	*1	381	6- 1-30
Sudik	*1	[1]30,000	.....
Unsell-Krager	*3	[4]4,804	6- 9-30
M. Fuzzell	2	[12]1,673	6- 9-30
M. Sudik	*2	[11]1,939	6-14-30
M. Unsell	*1	[4]3,199	6-12-30
L. Jones	*6	[4]5,092	6-17-30
Ferndale	*1	16,020	6-19-30
M. Knox	*1	[4]4,052	6-17-30
Werner-Farley	*2	[4]960	6-20-30
W. Canfield	*2	[12]166	6-20-30
Jones	*5	10,298	6-29-30
Warden	*1	6,758	7- 1-30
Werner-Farley	*3	[4]2,096	7- 2-30
Werner-Speegle	*3	[4]2,355	7- 2-30
H. W. Jones	*1	[13]3,129	7- 4-30
Borden	*1	[4]2,080	7- 5-30
E. Farley	*1	[5]104	7- 5-30
Salsman	*2	4,205	7- 8-30
C. Brokaw	*4	[8]435	7- 6-30
Ferndale Comm.	*2	[4]4,142	7- 7-30
N. Emerson	*5	[10]2,830	7-12-30
H. W. Jones	*2	[12]2,290	7-13-30
E. Trosper	*2	[15]5,000	7-13-30
B. Johnson	*4	[4]2,334	7-13-30
N. Emerson	*8	[24]4,052	7-14-30
N. Emerson	*10	[6]855	7-15-30
C. E. Trosper	*1	20,016	7-16-30
L. Jones	*8	[14]155	7-20-30
Salsman	3	[10]813	7- 7-30
Salsman	1	[12]304	7- 8-30
Frecure	1	[10]10,000	7- 9-30
L. Jones	3	10,184	5-29-30
H. W. Jones	2	24,586	7- 8-30
Jones Community	3	[10]10,000	7- 9-30
W. Franklin:			
Lowery	*6	[4]6,339	5-19-30
Theimer	*1	[4]7,896	5-17-30
Eacock	*1	[4]6,338	6- 1-30
Lowery	*5	[4]5,599	6-13-30
Hoopes	*4	6,396	6-12-30
Cromwell:			
Trosper Park	*10	[9]9,015	5-21-30
Trosper Park	*18	[8]1,902	7- 7-30
Trosper Park	16	[3]268	7- 8-30
Sinclair:			
Vinci	*4	[22]2,385	7- 5-30
Sinclair et al:			
Kinter	*5	255	5-28-30
Kinter	*7	[16]630	5-29-30
Vinci	*4	[12]2,385	2- 5-30
Coline:			
Warren	7	[15]5,000	6- 1-30
Olds	*9	[6]1,169	6- 7-30
Olds	*7	[17]819	6- 8-30
Warren	*3	[4]6,914	6-30-30
Slick:			
Hoopes	*2	[4]6,758	5-20-30
Hoopes	*5	[4]815	7- 6-30
Hoopes	*6	[11]1,617	7- 8-30
Houghton	1	16,924	6-21-30
Bailey	1	10,358	6-18-30
Martin	1	[14]10,045	7- 9-30
Heenan & Co.:			
Cunningham	*1	[16]6,904	5-30-30
Skelly:			
Hoopes	*3	13,192	6- 4-30
L. Jones	*3	[4]5,092	6-14-30
Dunn	*1	19,580	6-28-30
Hoopes	*2	[4]1,846	6-30-30
Hoopes	*5	[22]2,514	7- 1-30
Hoopes	*7	[21]1,954	7- 1-30
Hoopes	*4	[24]4,976	7- 2-30
Hoopes	*6	[5]441	7- 7-30
Hoopes	8	[4]4,964	7-10-30
Mid-Kansas:			
Mollman	*2	2,492	6- 5-30
Mollman	*3	[4]1,726	7- 3-30
Tom Slick Oil Co.:			
Bailey	*1	16,758	6-27-30
Houghton	*1	[28]873	6-27-30
Hall & Briscoe:			
Lindsey	*1	[4]5,186	7- 2-30
Total	71	453,951	

*Wells producing from the Simpson sand. All others are producing from the Arbuckle lime.

[1]Estimated. [2]Thirteen hours. [3]Fifteen minutes. [4]Twelve hours. [5]Five hours. [6]Eighteen hours. [8]Seventeen hours. [9]Twenty and one-half hours. [10]Twenty-one hours. [11]Nineteen hours. [12]Twenty-three and one-half hours. [13]Eight and one-half hours. [14]Thirteen hours, fifty-five minutes. [15]Six and one-third hours. [16]Eighteen and one-quarter hours. [17]Sixteen hours. [18]Three hours. [20]Thirty-five minutes. [20]Fourteen and one-quarter hours. [21]Nine and three-quarter hours. [22]Six hours.

These notations indicate the number of hours the wells produced on their initial production test.

Actual Field Production

The actual production from the Oklahoma City Pool is shown below, which gives the daily production, number of barrels of oil produced, number of wells producing and total number of wells completed in the pool each day:

Day—	Bbls.	Wells producing	Total wells comp.
May 20	95,959	47	237
May 21	90,552	47	237
May 22	102,517	54	243
May 23	159,347	62	247
May 24	121,002	55	249
May 25	171,689	58	251
May 26	176,201	61	254

Oklahoma City Shipments

The daily average pipe line and tank car shipments from the Oklahoma City Pool, averaged 92,374 bbls. for the week ending May 19. The total shipments for the seven days by companies were as follows:

Company—	Bbls.	Dly. av.
Empire	97,698	13,957
Healdton	5,316	759
I. T. I. O.	41,070	5,867
Magnolia	66,650	9,521
Oklahoma	121,904	17,415
Prairie	124,472	17,782
Shell	24,085	3,441
Sinclair	103,817	14,831
Tidal	61,604	8,801
Total	646,616	92,374

Greater Seminole Production

Production from the Greater Seminole area remained almost stationary for the week ending May 19. The Seminole area averaged 203,546 bbls. from 1,852 wells. The daily average gauges for the Greater Seminole area for the same seven days were as follows:

Pool—	Wells	Bbls.
Little River	365	26,763
East Little River	70	15,493
Carr City	57	10,779
Maud	137	6,245
Mission	104	14,921
Bowlegs	282	13,570
Earlsboro	301	55,622
East Earlsboro	151	31,680
Seminole	266	14,154
East Seminole	33	2,679
Searight	86	11,640
Allen	260	20,612
Asher	26	2,001
Konawa	52	16,561
St. Louis	485	39,066
Sasakwa	53	10,033
Total	2,728	291,819

Seminole Oil Shipments

Oil shipments from the Seminole Field for the seven days ending May 19, including pipe line and tank car, averaged 208,503 bbls. daily. The shipments exceed production by approximately 5,000 bbls. daily. The daily average shipments by companies were as follows:

Company—	Bbls.
Barnsdall	2,282
Champlin	1,882
Continental	548
Consolidated	240
Cosden	7,058
Deep Rock	6,864
Empire	2,353
Gulf	22,872
Magnolia	11,401
Oklahoma	26,730
Prairie	18,326
Producers & Refiners	2,731
Pure	2,083
Shell	13,336
Sinclair	50,268
Texas	13,442
Tidal	14,500
White Oak	1,768
Total	201,691
Tank cars	6,812
Grand total	208,503

Caddo County

English Drilling Co.'s No. 5 Gafney, SE cor. NW SE, Section 31-6-9w, is pumping 125 bbls. at 3,265 feet after plugging back from 3,550 feet.

Carter County

Kanoco Oil Co. has the rig up for No. 2 Coffee, SE cor. NE NW, Section 25-4s-3w. No. 1 Coffee, NE cor. SE NW, Section 25-4s-3w, has been completed for 75 bbls. in sands 1,423-1,973 feet.

Comanche County

K-D Drilling Co.'s No. 1 Corry, NE cor. SE SE, Section 23-2-10w, is drilling at 255 feet.

Creek County

Shell Petroleum Corp. has the rig on the ground for No. 7 Bruce, SW cor. NE, Section 10-17-9. Shawmut Oil Co. made location for No. 1 Self, SE cor. NE, Section 30-17-10. Frank Root and others' No. 1 Tiger, NW cor., Section 20-19-9, has been completed for 30 bbls. in sand 2,290-2,317 feet. Pure Oil Co.'s No. 1 Brightsman, NE cor. NW NE, Section 30-19-10, has been completed for 100,000 feet of gas in sand 2,162-91 feet after plugging back from 2,353 feet. Jackson & Wise's No. 1 Grayson, NE cor. SE SE, Section 20-18-9, has been completed for 50 bbls. in sand 2,896-2,908 feet. Shell Petroleum Corp.'s No. 6 Bruce, NW cor. SW NE, Section 10-17-9, made a 30-bbl. well in sand 2,012-37 feet. Wilcox Oil & Gas Co.'s No. 6 Lindsey, NW cor. SE, Section 10-17-9, has been completed for 40 bbls. in sand 1,992-2,020 feet. McGraw Oil Co.'s No. 1 McIntosh, SW cor., Section 15-16-11, has been abandoned at 2,952 feet.

Cotton County

Shasta Oil Co.'s No. 14 Patterson, CEL SW NW, Section 1-2s-10w, is rigging up rotary tools. Peckham & Patterson's No. 1 Moore, SW cor. NW SW, Section 2-2s-10w, is rigging up. Shasta Oil Co. made location for No. 1 Burneaugh, NE cor. NW, Section 11-2s-10w. Barnsdall Oil Co.'s No. 7 Lawler, SW cor. SE SW NE, Section 33-1s-10w, is pumping 3 bbls. from sand 2,245-59 feet. Baldwin & Sultan's No. 4 Patterson, NW cor. SW NW NW, Section 1-2s-10w, has been completed for 70 bbls. in sand 2,188-2,203 feet. Shasta Oil Co.'s No. 9 Patterson, SW cor. NE NW, Section 1-2s-10w, has been abandoned at 2,240 feet. No. 14 Slogan, SE cor. NE SE NE, Section 2-2s-10w, is swabbing 50 bbls. from sand 2,176-96 feet. No. 7 Burneaugh, CNL S half NE SE, Section 2-2s-10w, made 200 bbls. from sand 2,197-2,212 feet. Oakes and others' No. 1 Mullins, SE cor. NE, Section 28-2s-10w, has been abandoned at 2,310 feet.

Hughes County

G. W. Clark and others' No. 1 Hulley, SW cor. NE, Section 5-9-10, is dry and abandoned at 4,250 feet.

Jefferson County

O. V. Beck's No. 9 Seay, SE cor. NE SE SW, Section 34-6s-5w, is drilling at 1,288 feet. No. 10 Seay, SW cor. NW SW SE, Section 34-6s-5w, is rigging up rotary tools.

Kay County

Harris & Haun's No. 3 Brown, C SE SW, Section 9-27-1w, is drilling deeper at 3,595 feet. Carter Oil Co.'s No. 2 Jameson, SE cor. NW NE, Section 17-27-1w, is rigging up to drill deeper.

Kiowa County

Allen Brothers' No. 2 Howell, CSL N half SE, Section 13-1-17w, has been abandoned at 1,090 feet.

Lincoln County

Ed Jilson and others' No. 1 School Land, SE cor. SW, Section 16-17-5, is dry and abandoned at 4,048 feet.

Logan County

Superior Oil Corp.'s No. 1 Storey, SE cor., Section 25-19-5w, is a dry hole at 6,563 feet.

Marshall County

F. W. Merrick's No. 19 Null, NW cor. NE NW NW, Section 24-5s-5, Madill Pool, is drilling at 200 feet. Bilbo Oil Corp. moved a machine in for No. 6 Null, NW cor. SW NE NW, Section 24-5s-5. Scivner & Thompson's No. 1 Blaylock, SW cor. NE NE NE, Section 9-6s-6, is a machine. Walter Cline's No. 1 Bynum, SW cor. SE NW, Section 2-5s-5, has been abandoned at 50 feet. Bilbo Oil Trust Co.'s No. 5 Null, NW cor. SW NE NW, Section 24-5s-5, is making 100 bbls. from sand 525-636 feet. F. W. Merrick's No. 18 Null, NW cor. SE NW, Section 24-5s-5, has been completed for 100 bbls. in sands 636-700 feet. Poor Boy Oil Co.'s No. 1 Null, SW cor. NE, Section 24-5s-5, has been completed for 18 bbls. in sand 720-30 feet. Max Westheimer's No. 3 Davis Sullivan, SE cor. SW SE NW, Section 30-5s-6, is producing 80 bbls. from sands 576-653 feet.

Muskogee County

E. B. George has a machine on the location for No. 1 Manuel, NW cor., Section 4-13-16. Mazda Oil Co.'s No. 6 C. Jackson, SW cor. SE NW, Section 8-13-16, is drilling at 400 feet. P. Boyle and others' No. 4 I. Russell, SW cor. NE SE, Section 19-15-16, has been completed for 20 bbls. in sand 1,223-65 feet. E. A. Hollis and others' No. 1 M. Stedham, NW cor. NE SE, Section 8-15-18, is dry and abandoned at 930 feet. H. L. Jolly's No. 1 M. Brown, SE cor. NE NW NE, Section 8-15-18, has been abandoned at 1,005 feet. E. Price's No. 1 Rowsey, NE cor. SW SW NW, Section 10-15-18, has been abandoned at 980 feet. E. Mills and others' No. 1 Chandler, NW cor. SW SE, Section 17-15-18, has been completed for 5,000,000 feet of gas in sand 1,255-56 feet. M. S. Mussellem's No. 3 Downing.

SW cor. SE, Section 33-14-19, has been abandoned at 2,253 feet.

Noble County

Sunray Oil Co.'s No. 1-A Waltermire, NW cor. SE SE NW, Section 33-21-1w, is drilling at 400 feet. Magnolia Petroleum Co. has the cellar dug for No. 1 Sumner, SE cor. NE NW, Section 4-20-1w.

Oklahoma County

Skelly Oil Co.'s No. 2 Dillon, NW cor. NE SW, Section 2-11-3w, Oklahoma City Field, is a cellar. Plains Petroleum Co. made location for No. 1 Saddler, NW cor. SW SW, Section 2-11-3w, Lots 14 and 18, Block 3, Compton Addition. Wirt Franklin Petroleum Corp. has the cellar dug for No. 11 Theimer, SW cor. NW SE, Section 2-11-3w. J. C. Shaffer's No. 1 Vinita Park, Lot 10, Block 2, NW cor. SW, Section 2-11-3w, is a cellar. Anderson & Prichard's No. 1 Roosevelt Place, NE cor. SE NE, Section 2-11-3w, is a rig under construction. The rig is being built for No. 2 Roosevelt Place, SE cor. NE NE, Section 2-11-3w. No. 2 Gibbons, NW cor. SE NE, Section 2-11-3w, is a cellar. Tom Slick Oil Co. and Atkinson's No. 2 Alexander, SW cor. NE SW, Section 2-11-3w, is a cellar. Tom Slick Oil Co. made location for No. 2 Classen, NW cor., Section 2-11-3w. No. 3 Classen, NE cor. NW NW, Section 2-11-3w, is a cellar. Location has been made for No. 1 Daugherty, NW cor. SW SE NW, Section 2-11-3w. No. 2 Foote, NE cor. SE SW, Section 2-11-3w, is a location. Hall & Briscoe's No. 1 Finch, SW cor. SE SE, Section 3-11-3w, Lots 37 and 38, Block 6, Central Addition, is a cellar. Location has been made for No. 1 Fee, SE cor. NE, Section 3-11-3w, Lot 39, Block 22, Walnut Grove Addition. Indian Territory Illuminating Oil Co. made location for No. 1 Starkey, NW cor. NE SE, Section 11-11-3w. No. 1 M. Lawton, NE cor. SW NE, Section 11-11-3w, is a location. Location has been staked for No. 5 Ferndale Community, SE cor. NW NE, Section 11-11-3w. Location has been made for No. 2 Eacock, SW cor. NW NE, Section 11-11-3w. Location has been made for No. 2 Coppinger, NW cor. NE NW, Section 11-11-3w. Location has been made for No. 3 Coppinger, SE cor. NE NW, Section 11-11-3w. Cromwell-Franklin Oil Co. made location for No. 28 Trosper Park, NE cor. NW NW, Section 13-11-3w. Indian Territory Illuminating Oil Co. made location for No. 4 Pasadena Heights, SE cor. SW SE, Section 14-11-3w. No. 5 Pasadena Heights is a location, NE cor. SW, Section 14-11-3w. Location has been staked for No. 4 Clarence Trosper, SW cor. NE, Section 14-11-3w. No. 6 Hugh Trosper is a location, SE cor. SW NE, Section 14-11-3w. Location for No. 4 May Knox has been made, NW cor. NE SE, Section 14-11-3w. No. 3 Spillman, SE cor. NW SE, Section 14-11-3w, is a rig. No. 4 Spillman, NW cor. SE, Section 14-11-3w, is a location. Indian Territory Illuminating Oil Co. and Anderson & Prichard made location for No. 1 Boulevard Addition, SW cor. NW NW, Section 14-11-3w. Coline Oil Co. has the cellar dug for No. 16 Clauer, SE cor. NW SE, Section 25-11-3w. Indian Territory Illuminating Oil Co. staked location for No. 4 Mary Unsell, NE cor. NW NE, Section 23-11-3w. No. 1 Capshaw, SE cor. NW, Section 23-11-3w, is a rig. Shell Petroleum Corp. has the cellar dug for No. 1 Egermier, NE cor. SW, Section 23-11-3w. Indian Territory Illuminating Oil Co. and Cromwell-Franklin Oil Co. made location for No. 1 Billen, NE cor. SE NE, Section 26-11-3w.

Indian Territory Illuminating Oil Co.'s No. 2 Jones, NE cor. SE SW, Section 1-11-3w, has been completed for 14,632 bbls. in sand 6,370 feet, total depth 6,510 feet. No. 1 Trosper, C NE SW, Section 13-11-3w, has been plugged back from 6,570 feet to 6,520 feet and drilled to 6,538 feet, where it made 161 bbls. No. 5 Trosper, SE cor. NE SW, Section 13-11-3w, an old well, plugged back from 6,530 feet to 6,365 feet and completed for 66,000,000 feet of gas. Cromwell-Franklin Oil Co.'s No. 2 Thompson, SW cor. NE, Section 15-12-3w, is dry and abandoned at 4,575 feet. Indian Territory Illuminating Oil Co.'s No. 1 Werner-Farley, NE cor. SE, Section 23-11-3w, deepened from 6,533 feet to 6,585 feet and made 4,392 bbls. No. 4 Johnson, NW cor. NE NW, Section 25-11-3w, has been completed for 4,717 bbls. in sand 6,350 feet, total depth 6,449 feet. Tom Slick Oil Co.'s No. 2 Hussman, SW cor., Section 29-11-2w, topped Arbuckle lime at 6,410 feet, drilled to 6,441 feet and made 76,500,000 feet of gas. Indian Territory Illuminating Oil Co.'s No. 2 Bodine-Anderson, SE cor. NE NW, Section 30-11-2w, has been drilled to 6,600 feet, plugged back to 6,429 feet and made 16 bbls. No. 3 Bodine-Anderson, SW cor. NE NW, Section 30-11-2w, topped Arbuckle lime at 6,143 feet, drilled to 6,650 feet and plugged back to 6,421 feet, where it is pumping 279 bbls. No. 5 Emmerson, NE cor. SE SW, Section 30-11-2w, has been completed for 3,136 bbls. in Arbuckle lime 6,485-91 feet. No. 8 Emmerson, NW cor. SE SW, Section 30-11-2w, made 4,422 bbls. in Arbuckle lime 6,515-30 feet. No. 10 Emmerson, SE cor. NE SW, Section 30-11-2w, has been completed for 1,135 bbls. in sand 6,237-6,392 feet. Sinclair Oil & Gas Co.'s No. 4 Stamper, NW cor. SW NW, Section 30-11-2w, has been plugged back from 6,633 feet to 6,200 feet and shut in for 80,000,000 feet of gas. Indian Territory Illuminating Oil Co.'s No. 8 Jones, NW cor. NE NW, Section 31-11-2w, made 2,610 bbls. in sand 6,415-6,704 feet. No. 9 Jones, SW cor. NE NW, Section 31-11-2w, has been completed for 2,908 bbls. in sand 6,395-6,653 feet.

Okfuskee County

Foster Development Co. moved the rig in for No. 1 Holmes, SW cor. SE, Section 13-11-10. Fern Oil & Gas Co.'s No. 3 Turner, SE cor., Section 24-11-10, is rigging up. Summitt Drilling Co. has the rig up for No. 1-A Likowski, C SE SW, Section 23-11-11. Ben Ashe and others made location for No. 1 King, SE cor. NW SE, Section 13-10-10. Continental Oil Co.'s No. 1 Simmer, NE cor. SW NW, Section 32-12-10, has been abandoned at 3,933 feet. Suppes & Robinson's No. 3 B. Severs, C SW SE, Section 35-11-9, has been completed for 12 bbls. in sand 1,494-1,508 feet. Champlin Oil & Refining Co.'s No. 9 Washington, NE cor. NW SE, Section 15-11-11, made 35 bbls. in sand 2,720-22 feet. F. A. Havel's No. 1-A Likowski, NE cor. NW, Section 26-11-11, made 75 bbls. from sands 1,620-85 feet and 2,050-70 feet. Atlantic Oil Producing Co.'s No. 6 Simmer, CEL SE SE, Section 11-10-11, made a 5-bbl. well in sand 2,064-74 feet.

Okmulgee County

D. M. Logan's No. 1-A J. Perryman, CEL NE SE, Section 31-15-13, has been completed for 3,500,000 feet of gas in sand 2,005-20 feet. J. E. Wallace's No. 15 V. Colbert, CEL SW NE, Section 14-14-14, is dry and abandoned at 1,142 feet. J. H. Rebold Oil Co.'s No. 3 Scott, SW cor. NW NE, Section 27-13-11, has been completed for 6 bbls. at 1,175 feet after plugging back from 2,600 feet.

Osage County

Oklahoma Natural Gas Corp. has a machine on the location for No. 1,787, NW cor. SE, Section 30-21-11. Gault Brown Oil Co. and others' No. 7, CEL NW, Section 7-24-8, is rigging up. McCune, Wormser and others' No. 14, SE cor. NW, Section 15-24-8, is rigging up. Carter Oil Co.'s No. 3, NE cor. SE NE, Section 32-25-9, is preparing to deepen from 1,977 feet. Indian Territory Illuminating Oil Co. has a machine in to deepen No. 429, NE cor. SE, Section 6-26-12, from 1,493 feet. Vacuum Oil Co. and others' No. 2, SW cor. NW NW, Section 23-26-6, has been completed for 428 bbls. in sand 2,974-94 feet. W. D. Gray and others' No. 6, SW cor. SE, Section 34-24-8, has been completed for 12 bbls. at 2,306 feet where it was plugged back from 2,488 feet. Indian Territory Illuminating Oil Co.'s No. 325, SE cor. NE NE, Section 14-23-8, made 200 bbls. in Silicious lime 2,453-57 feet. Barnsdall Oil Co. and Branstetter's No. 1, SE cor. NE, Section 22-22-11, is dry and abandoned at 1,712 feet. Devonian Oil Co.'s No. 2, SW cor. NE NE, Section 25-21-9, is dry and abandoned at 2,186 feet. Oklahoma Natural Gas Corp.'s No. 1,780, CNL S half N half NW, Section 34-21-11, is dry and abandoned at 1,829 feet.

Pawnee County

Seminole Oil Co.'s No. 1 Edmiston, NW cor. SW SW, Section 30-21-9, is drilling at 640 feet. Geraldine Oil Co.'s No. 7 Edmiston, SE cor. NW SW, Section 30-21-9, is spudding. John Byrnes moved a machine in for No. 8 Edmiston, NE cor. NW SE SW, Section 30-21-9. Williams and others' No. 1 Kinney, NW cor. NE NE, Section 2-20-8, is a rig under construction. Campbell Drilling Co. and others' No. 1 Miller, NW cor. NE SE, Section 20-20-10, is drilling at 1,300 feet. P. J. Breslin and others' No. 2 Cotton, NW cor. SW NW NE, Section 6-20-8, has been completed for 3,250,000 feet of gas in sand 1,170-75 feet. John Byrnes' No. 7 Edmiston, NW cor. SE SW, Section 30-21-9, made 20 bbls. from Layton sand 1,093-1,123 feet. Geraldine Oil Co.'s No. 6 Edmiston, CSL NW SW, Section 30-21-9, made 15 bbls. in Layton sand 1,096-1,117 feet.

Payne County

Home Gas Co.'s No. 5 Ellis, NE cor. NW SW NW, Section 1-18-5, is drilling at 500 feet. Mulberry Oil Co. moved the rig in for No. 7 Sharrum, NW cor., Section 5-17-4. Magnolia Petroleum Co. made location for No. 7 Payne, NE cor., Section 6-17-4. Skelly Oil Co. and Deep Rock Oil Corp.'s No. 1-B School Land, SW cor., Section 16-19-5, has been completed for 402 bbls. in sand 3,790-3,833 feet. Wheeler & Mote's No. 1 Funnell, NE cor. SE, Section 4-17-4, is dry and abandoned at 4,305 feet. Magnolia Petroleum Co.'s No. 6 Payne, NE cor. SE NE, Section 6-17-4, has been completed for 345 bbls. in sands 4,165-79 feet and 4,200-15 feet.

Pontotoc County

Texas Pacific Coal & Oil Co. has a machine on the location for No. 4 Hatcher, SE cor. NE NW, Section 30-5-5. C. B. Shafer's No. 10 Yoakum, SW cor., Section 9-5-8, is drilling at 385 feet. Denver Producing & Refining Co.'s No. 3 Stafford, NE cor. NW SW, Section 31-5-5, has been completed for 100 bbls. in Viola lime 2,495-2,663 feet.

Pottawatomie County

Crump & Beard's No. 1-A Haer, SE cor. SW, Section 31-10-5, is a cellar. Westheimer & Neustadt's rig is up for No. 1 Johnson, NE cor. SE SW, Section 27-6-3, West Asher Field. Backon Drilling Co.'s No. 1 Earlsboro Townsite, Lot 6, Block 20, C SW NW, Section 8-9-5, made 1,567 bbls. from Wilcox sand 4,313-25 feet. Verne Brown Drilling Co.'s No. 1 Earlsboro Townsite, Lot 1, Block 2, NW cor. NE SE NW, Section 8-9-5, has been completed for 841 bbls. in Wilcox sand 4,350-68 feet.

Seminole County

Mid-Continent Petroleum Corp. has the rig up for No. 6 P. Harjo, SE cor. SW, Section 20-6-6. Hilton Phillips and others' No. 3 Burgess, NE cor. NW NE, Section 29-6-6, Konawa Pool, is a cellar. The Prairie Oil & Gas Co.'s No. 1 Caesar, NE cor. NW, Section 29-6-6, is rigging up. Amerada Petroleum Corp. and others' No. 2 Edwards, NE cor., Section 22-9-5, South Earlsboro Pool, has been completed for 8,010 bbls. in Wilcox sand 4,215-34 feet. No. 1 Grounds, SW cor. NW NW, Section 23-9-5, made 11,170 bbls. from Wilcox sand 4,189-4,216 feet. The Texas Company's No. 1 Johnson, SE cor. SW NE, Section 26-9-5, is dry and abandoned at 4,362 feet. Carter Oil Co.'s No. 3 Campbell, NW cor. NE SW, Section 20-9-6, drilled to 4,245 feet in Wilcox sand, plugged back to 4,197 feet and completed for 695 bbls. No. 5 Campbell, NW cor. SW SW, Section 20-9-6, has been completed for 145 bbls. in Wilcox sand at 4,256 feet after plugging back from 4,280 feet. Magnolia Petroleum Co.'s No. 5 Denby, NE cor. SE NW, Section 11-7-6, pumped 28 bbls. at 3,249 feet after plugging back from 3,310 feet. Gypsy Oil Co.'s No. 1 Carolina, SW cor. SE NE, Section 13-7-6, Little River Pool, is dry and abandoned at 4,148 feet. Mid-Continent Petroleum Corp.'s No. 15 Smith, NE cor. NW SE, Section 5-7-7, East Little River Pool, flowed 566 bbls. from sand 3,200-22 feet. Burke-Greis Oil Co.'s No. 1 Caesar, NW cor. SW SW, Section 21-6-6, has been completed for 2,295 bbls. in Cromwell sand 2,912-45 feet. The Prairie Oil & Gas Co.'s No. 3 Griffin, SE cor. NE, Section 17-6-6, Konawa Pool, flowed 1,010 bbls. from Cromwell sand 2,888-2,931 feet. Carter Oil Co.'s No. 2 Aldridge, SW cor. NE, Section 7-6-8, drilled to 3,065 feet and plugged back to 2,838 feet where it swabbed 30 bbls.

Stephens County

Smythe and others' No. 1 Frederick, NE cor., Section 31-2-8w, is a rig. Sykes and others' No. 1 Wade, SE cor., Section 8-1s-8w, is rigging up. Margay Oil Corp.'s No. 1 Flanagan, SW cor. NE NW, Section 12-2s-10w, is drilling at 2,050 feet. Owenwood Oil Co.'s No. 12 Massey, NE cor. SW SE NW, Section 12-2s-8w, is rigging up. Carl Wylie's No. 1 Fair, SE cor. SW SE, Section 33-1-8w, has been abandoned at 2,445 feet. Wirt Franklin Petroleum Corp.'s No. 1 Hartley, NW cor. SW SW, Section 10-2s-6w, was completed for 137 bbls. in sand 2,864-70 feet.

Tillman County

Paul R. Flake's No. 1 Barba, NE cor. SE NE SE, Section 19-1s-16w, has been abandoned at 1,275 feet. Bridewell Oil Co.'s No. 1 Pautchee, NE cor. SE, Section 4-4s-16w, has been abandoned at 2,521 feet.

Tulsa County

Johnson Oil & Refining Co.'s No. 1-A McClain, NW cor. SE SE, Section 7-19-10, is dry and abandoned at 2,105 feet.

Wagoner County

W. B. Pine's No. 1 Childers, SW cor. NE SW, Section 23-18-16, has been completed for 800,000 feet of gas in sand 879-90 feet. W. J. Metzger's No. 1 Ford, CNL SW, Section 5-15-18, has been abandoned at 1,387 feet.

PANHANDLE FIELDS

(Continued from Page 60)

and others, oil show 701 feet; initial production 270 feet; total depth 707 feet. Smith and others' No. 2 Watson, dry and abandoned at 730 feet. Imperator Oil Co.'s No. 1 White, dry and abandoned at 3,503 feet. Independent Oil & Gas Co.'s No. 2 Jarnigan, top pay 2,502 feet; initial production 200 bbls.; total depth 2,554 feet. Staley & Wynne's No. 1 Cooper, oil show 1,042 feet; total depth 1,072 feet; initial production 240 bbls.

RANGER COMPLETIONS
Week ending May 24

Brown County

Simons' No. 1 Kessler, dry and abandoned at 1,331 feet. Ungren and others' No. 1 Eddington, dry and abandoned at 404 feet. J. H. Davis' No. 1 Gentry, dry and abandoned at 880 feet. Tex-Cal Oil Co.'s No. 4-B Martin, oil show 980 feet; initial production 30 bbls; total depth 987 feet.

Callahan County

Culberson Brothers and others' No. 1 Windham, dry and abandoned at 1,792 feet. Ducker and others' No. 1 Higgins, dry and abandoned at 451 feet. Humble Oil & Refining Co.'s No. 2 Hennessey, dry and abandoned at 1,663 feet. Humble Oil & Refining Co. and others' No. 2 Alexander, oil show 1,027 feet; initial production 8 bbls. oil and 30 bbls. water; total depth 1,035 feet. Lillins' No. 1 Robinson, dry and abandoned at 795 feet. Prairie Oil & Gas Co.'s No. 1 Surles, dry and abandoned at 533 feet.

Coleman County

McMan Oil & Gas Co. and others' No. 1 Stewardson, dry and abandoned at 1,625 feet.

Eastland County

Magnolia Petroleum Co.'s No. 2 Kirk-Ervin, dry and abandoned at 3,847 feet. Magnolia Petroleum Co.'s No. 4 McMinn, dry and abandoned at 1,865 feet. George Christie's No. 1 Clark, dry and abandoned at 1,340 feet.

Shackelford County

Humble Oil & Refining Co.'s No. 1 Davis, dry and abandoned at 1,853 feet.

TEXAS PANHANDLE COMPLETIONS
Week Ending May 24
Carson County

Delmar Oil Co.'s No. 5 Noel, top pay 3,211 feet, initial production 120 bbls., total depth 3,221 feet. H. A. M. Oil Co.'s No. 1 Cooper, top pay 3,102 feet, initial production 185 bbls., total depth 3,105 feet. Phillips Petroleum Co.'s No. 1-A Garner, total depth 3,193 feet, top gas sand 2,540 feet, initial production 4,000,-

000 feet of gas, plugged back to 2,917 feet. Skelly Oil Co.'s No. 20 Schaffer, top pay 3,165 feet, total depth 3,200 feet, initial production 150 bbls.

Gray County

Dixon Creek Oil Co.'s No. 2 Harah, top pay 3,140 feet, initial production 300 bbls., total depth 3,215 feet. Humble Oil & Refining Co.'s No. 2 Combs & Worley, deepened from 2,808 feet to 2,828 feet, initial production 5,215 bbls., increased from 3,800 bbls. to 5,215 bbls. Magnolia Petroleum Co.'s No. 6 Faulkner, top pay 2,849 feet, initial production 897 bbls. oil and 8,000,000 feet gas, total depth 2,902 feet. Magnolia Petroleum Co.'s No. 5 fee, top gas sand 2,335 feet, initial production 33,000,000 feet of gas, total depth 2,365 feet. Prairie Oil & Gas Co. and others' No. 1 Worley and others, top pay 2,783 feet, initial production 2,275 bbls., total depth 2,890 feet. Prairie Oil & Gas Co.'s No. 2 Worley and others, top pay 2,843 feet, initial production 4,690 bbls. oil and 20,000,000 feet of gas, total depth 2,855 feet. Rieger & Stuckall's No. 1 Bohr, dry and abandoned 3,500 feet.

Hutchinson County

Danciger Oil & Refining Co.'s No. 3 Moore, top pay 3,008 feet, initial production 125 bbls., total depth 3,020 feet. Danciger Oil & Refining Co.'s No. 4 Moore, top pay 2,968 feet, initial production 75 bbls., total depth 3,040 feet. McElroy Oil Co.'s No. 9 Cockrell, total depth 3,080 feet, plugged back to 3,043 feet and shot 100 quarts from 3,015-41 feet, second shot 30 quarts from 3,032-43 feet, initial production 3 bbls. oil and 50,000 feet of gas. Midwest Exploration Co.'s No. 1-B Garner, top pay 3,036 feet, shot 150 quarts 3,027 feet, initial production 255 bbls., total depth 3,130 feet. Stekol's No. 3-B Whittenburg, top pay 3,010 feet, initial production 75 bbls., total depth of well was 3,044 feet.

Wheeler County

Lone Star Gas Co.'s No. 4 Burchan, gas sand 1,790 feet, initial production 4,000,000 feet of gas, total depth 1,934 feet. Upham Gas Co.'s No. 1 fee (George), gas sand 1,823 feet, initial production 10,000,000 feet of gas, total depth 1,860 feet.

WEST TEXAS FIELDS

(Continued from Page 59)

which swabbed 20 bbls. in 24 hours at total depth of 1,901 feet, promises to extend Yates Pool production farther west. It was plugged back from total depth of 1,998 feet to 1,923 feet and shot with 10 quarts from 1,900-15 feet and flowed 15 bbls. in 12 hours after the shot. Tubing is being run in an effort to flow the well.

Group No. 1 Oil Corp.'s No. 2-B University, north of its No. 1 which was the first deep well in the Big Lake Field in Reagan County, is now shut down at 8,489 feet flowing 264 bbls. in three hours with 30,000,000 feet of gas. Top of the pay in this test is 8,131 feet, and gravity of the oil is around 60. It is believed it will increase in production as did its predecessor, consequently will be watched by many expecting to see this kind of activity.

Most Interesting Wildcat

Cranfill & Reynolds' No. 1 Tubbs in the NE Section 8, Block B-27, P.S.L. on the west side of Crane County, the most interesting and closely watched wildcat in West Texas, topped the gray lime at 2,460 feet and brown lime at 2,626 feet with an elevation of 2,526 feet, encountered a gas sand at 2,665 feet and another at 2,675 feet and is shut down at 2,745 feet for repairs. There was an estimated 75,000 feet of gas struck at the two depths. Gas was formerly found in the test at 1,410 feet, 1,595 feet and 1,600 feet. Due to topping the lime at 2,460 feet, much higher than any surrounding wildcat, aroused great interest and was the principal cause of all open acreage being leased by various companies, principally the Gulf Production Co., which holds a half interest in the section on which the test is being drilled, and two offset sections, with a larger amount of acreage to the north and west.

Mid-Continent Exploration Co.'s No. 1 Lindsey, offset to Adams, Ferguson & Hobbs' No. 1 Lowe, Section 22, Guadalupe County School Lands, Taylor County, which looked like a failure last week, swabbed 40 bbls. from sandy lime logged at 2,389-2,406 feet, and now looks good for a small pumper.

WEST TEXAS COMPLETIONS

Borden County

Phillips Petroleum Co. and others' No. 1 T. G. Goode, dry and abandoned at 3,880 feet.

Coke County

Cates & Fitzhugh's No. 1 Mims, location abandoned.

Ector County

Gibson & Johnson's No. 1 Scharbauer, dry and abandoned at 4,012 feet. Humble Oil & Refining Co.'s No. 3 York, total depth 3,785 feet, plugged back to 3,771 feet, top pay 3,668 feet, initial production 594 bbls. oil and 1½ per cent water, well shot May 13, 1930, with 110 quarts at 3,651-3,710 feet, initial production after shot 500 bbls., completed second time. Gulf Production Co.'s No. 1-G Kloh, top pay 3,715 feet, initial production 240 bbls., total depth 3,760 feet.

Irion County

Cromwell and others' No. 2 Nutt, sand 1,451 feet, pumping 125 bbls. oil per day, total depth 1,441 feet.

Mitchell County

California Oil Co.'s No. 10 Miller, shows oil 2,924 feet and 2,880 feet, shot 720 quarts from 2,875 feet to 3,065 feet, initial production 152 bbls., total depth 3,065 feet.

Pecos County

Cardinal Oil Co.'s No. 8 Toborg, top pay 320 feet, initial production 300 bbls., total depth 412 feet. Shell Petroleum Corp.'s No. 8-D Smith, top pay 1,625 feet, initial production 120 bbls. oil per hour, total depth 1,737 feet.

Scurry County

E. L. Smith Oil Co. and others' No. 1 Mooar, dry and abandoned at 4,650 feet.

Ward County

Anderson and others' No. 1 Boogher & Meritt, top pay 2,175 feet, initial production 35 bbls., total depth 2,237 feet.

SECOND WELL AT OKLAHOMA CITY CONTROLLED BY SPECIAL DIE NIPPLE

In bringing in No. 1 Sigmon in the NW cor. SW, Section 32-11-2w, in the Oklahoma City Pool on Friday, May 16, the Phillips Petroleum Co., Prairie Oil & Gas Co. and Tom Slick Co. had the misfortune to get a wild well that blew into the air until 6 p.m. Tuesday, May 20, and was finally brought under control by the same methods that were applied to the now famous No. 1 Mary Sudik of the Indian Territory Illuminating Oil Co. which ran wild for 11 days in the early part of April.

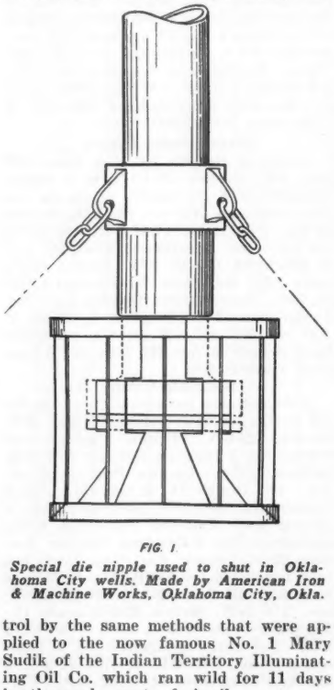


FIG. 1

Special die nipple used to shut in Oklahoma City wells. Made by American Iron & Machine Works, Oklahoma City, Okla.

The experience gained in bringing the Mary Sudik under control was used to good advantage in capping this second well which is located just a half mile due east of the No. 1 Mary Sudik well.

The accompanying illustrations portray the piece of equipment which was used in shutting in both wells. Cut No. 1 shows the die assembled, and Cut No. 2 shows a cross section view with parts numbered. From these illustrations it is readily seen that a special form of steel die nipple, with packing gland and fan guide, was used. This was forged, machined and assembled by the American Iron & Machine Works Co., Oklahoma City, Okla. It is described by the makers as follows:

"The equipment was assembled on a length of 9-inch pipe, above which were the customary Christmas tree connections. Around the pipe was a swivel snubber, set on ball bearings. This swivel was fitted with four ears, each with a hole for attaching chain hoists, used to pull the device in place. The ball bearings made it possible to turn the assembly, after the force of the chain hoists had been applied.

"Next came a 9-inch die collar at the end of the length of 9-inch pipe. The special steel die was screwed into this collar. The steel die was made to go over the 14 inches of 7-inch casing, above the bradenhead, to which connection had to be made to bring the well under control. For 1 inch the die threads were fluted, to assure easy hold on the damaged threads on the casing. Above the fluted section, there were 3¼ inches of full threads, which took hold as the die was turned, with power applied by drawworks and tongs at the derrick floor.

"Around the die was a stuffing box packing gland, with space for rubber packing, 1 inch thick and 2 inches wide.

"A fan guide, with 14 blades, was attached around the assembly at the bottom and extended below the die and flange. This guide had a 7¼-inch opening at the top, with tapered opening to 19 inches at the bottom. It was made in halves, so it could be bolted around the assembly. By having blades, the guides allowed the force of the gas and oil to pass between the blades, and thus made it less difficult to pull the die into connection with the casing."

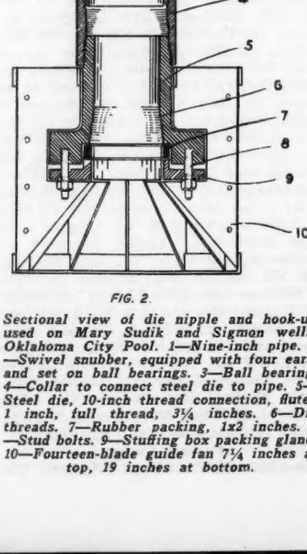


FIG. 2.

Sectional view of die nipple and hook-up used on Mary Sudik and Sigmon wells, Oklahoma City Pool. 1—Nine-inch pipe. 2—Swivel snubber, equipped with four ears, and set on ball bearings. 3—Ball bearing. 4—Collar to connect steel die to pipe. 5—Steel die, 10-inch thread connection, fluted 1 inch, full thread, 3¼ inches. 6—Die threads. 7—Rubber packing, 1x2 inches. 8—Stud bolts. 9—Stuffing box packing gland. 10—Fourteen-blade guide fan 7¼ inches at top, 19 inches at bottom.

The actual setting of the device was as much an engineering feat as was the making of the special die. Volumes could be written about the heroic actions of the men while connection was being made, but space forbids more than a meager working explanation as given by an eye witness, as follows:

"The christmas tree was made up at the well. A length of pipe was put at the top, so the flow of gas and oil will be high in the derrick after connection was made. The 9-inch pipe, with equipment for making connection, was attached to the bottom of the christmas tree.

"With the piece of equipment assembled on the platform, it was ready to be swung into the derrick with a block. When swung inside, four chain hoists were attached, one to each ear of the ball bearing swivel. The hoists were anchored to sills below derrick floor. By manipulating these hoists the device was brought closer and closer to the 7-inch casing through which the well was flowing. The cables on the block were released as the assembly was pulled downward by the hoists.

"The fan guide made it certain that the die would come into proper position with the casing. By having the guide of fan blades the force of oil and gas passed through the blades and relieved much of the pressure from the casing.

"The chain hoists were used until the die reached the top of the casing. Then the die was ready to be turned. Power was applied by the drawworks, the steam engines being connected with a gas line under pressure. Fourteen turns were made on the christmas tree. The fluted section of the die first caught the damaged threads of the casing. Then complete threads came into play, taking up the threads run by the fluted section. The connection was turned on until one set of tongs gave way. Then a piece of pipe was rigged up as a tong and power applied until the pipe bent.

"This proved to be a good connection As the two master gates of the christmas tree had been left open, the flow of the well was then through the top of the joint of pipe above the christmas tree, discharging into the top of derrick.

"Next the fan guide was removed from around the connection just made. The only function of the fan was to assure proper meeting of die and casing.

"Men working in the cellar then inserted packing in the stuffing box. The bottom flange of this was then drawn in place with stud bolts. This gave the joint a double connection; one a screwed joint with the steel die, the other the stuffing box packing gland.

"Extreme precautions were then taken by running chains from the christmas tree to anchorage below derrick floor. Cross arms on the christmas tree were provided for this. The chains were then tightened, thus tieing the entire assembly together. Turnbuckles were also used to anchor christmas tree to two legs of the derrick floor.

"This work required more than three hours to complete. When finished, the well was ready to be brought under control. A 40-foot extension had been rigged onto the lower master gate to which was then attached chain tongs with men ready for the signal. There was a significant pause for a few moments, then the order to 'heave-ho' was given, and then the extension pipe began to turn. At each turn of the pipe the flow of oil and gas dwindled, until with a final heave it stopped altogether."

The operations at the No. 1 Sigmon in practically every detail were the same in method and material as used on No. 1 Mary Sudik and the fact that this second well was brought under control in about half the time needed to conquer the Mary Sudik speaks well for this method for controlling wells of this particular type where the casing is well anchored and threads can be cut upon the top end of the flow string.

New Play South of Old Findlay Field

In Southern Hancock County and Northern Hardin County. Producer Makes 60 Bbls. Initial and 300,000 Feet of Sweet Gas

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, May 26.—The old Lima Field of northwestern Ohio is gradually being extended and at this time the most interesting area is to the south of the old Findlay Field, in the southern part of Hancock County and the northern part of Hardin County, where a nice play will be had according to well informed men who have been in the Lima Field for many years, as chances are good for both oil and gas and while the gas wells are not of the gusher kind, they are well worth the going after, as there is a ready market for all the gas that can be found anywhere near a trunk line.

The feature of the old Lima Field is the completion of a test by the Geiger Oil Co., composed of Grant Geiger, the landowner, Abbott Brothers and others, the contractor being Abbott Brothers and others. This well was scouted by Lawrence Dickelman, of Forest, Ohio. The Geiger well is near the northeast corner of the farm containing 72 acres, being the E half NE, Section 13, Cessna Township, Hardin County, on the township line or range line road between Pleasant and Cessna Townships, and 2 miles south of the north Cessna Township line at the Twin Bridges. In this well there were 147 feet of drive pipe, 1,370 feet of casing and the Trenton lime was topped at 1,354 feet; gas at 1,365 feet and at 1,367 feet there was 800 feet of oil in the hole. It was shot with 60 quarts resulting in a producer good for 60 bbls. initial and approximately 300,000 feet of sweet gas. Other gas on the same Lost Dome structure is loaded heavily with sulphur. The total depth of hole was 1,381 feet or 27 feet in the Trenton and at that depth the sand still looked encouraging and the general opinion of operators on the ground was that the well could have been carried deeper.

Previous Operations

The well that first brought about lease work was on the Sidney Sites farm, NW SW, Section 14, Cessna Township, approximately 2 miles west and almost 1 mile south of the Geiger farm well. It produced 40 bbls. initial along with 250,000 feet of gas, and was drilled by the Kemrow Co. which has large lease holdings in Cessna, Pleasants, Lynn and Buck Townships, in Hardin County, and is now drilling No. 1 on the Mary Waiters 40 acres in the center of the lease, and due south of the Sites farm well. The Kemrow Co. has made a location for No. 1 on the Elmer Kreitzler 120 acres, 400 feet from the north line and 400 feet from the east line of the lease, called an offset to the good well on the Geiger farm. The Kemrow Co.'s No. 1 on the Oliver C. Crawford, is about 700 feet from the Sites well and in the NE SE, Section 15, Cessna Township. In this well there is a string of 173 feet of drive pipe, 421 feet of casing; first break found at 400 feet and second break at 421 feet; top of Trenton at 1,406 feet and drilled 35 feet in sand to a total depth of 1,441 feet and shot with 60 quarts, with a volume of 250,000 feet. This well had an oil showing but stopped for the gas. A stake was driven 1 mile straight west of the Geiger well on the Ora T. Price 80 acres, in the NW NW, Section 15, Cessna Township, and in the northwest corner of the lease. The operators are Hummell, Mick and others and the contract work is being done by Kennedy & Temple, of Findlay, Ohio. The Juniper Oil Co., of Columbus, Ohio, set a stake for an offset to the Geiger well in the northwest corner of the George Matthews 100 acres, and the Geiger Oil Co. is starting No. 2 on the Geiger farm, a location north of No. 1 on the same farm.

A rush to get leases has been on in all the townships mentioned and in addition a block has been leased 2 miles square in Goshen and Pleasants Townships, the center of the block being where the township line crosses the Harding Highway north and south, and extends almost south to the Scioto River, about 4 miles east of the new production in Cessna Township, about 7 miles due south from the production in Jackson Township. A well will be started shortly somewhere on this big block. Hundreds of operators have been camping at various points on the Lost Dome formation attempting to secure leases in line with their own ideas of the best gamble still open or obtainable.

Lima Field Completions

Five other completions are reported from the old Lima Field. In Salem Township, Ottawa County, between Oak Harbor and Fremont and about 3 miles south and a little west of Oak Harbor. W. C. Richards and others' test in the southwest corner of the John G. Gnepper farm, SW Section 19, is a light gas well from 1,332-92 feet.

The Kansas-Ohio Oil & Gas Co.'s No. 4 well, 200 feet from the south line and 1,000 feet from the east line of the Lawrence P. Dillon, known as the old J. Moses farm on the oil map, in the SE Section 1, Jackson Township, Seneca County, pumped but 1 bbl. the first 24 hours. Sand was topped at 1,300 feet and drilled 100 feet in the Trenton, total depth 1,400 feet.

In Mercer County, Butler Township, the Home Oil & Gas Co.'s second test, 1,000 feet from the south line and 700 feet from the west line of the George Wenning farm, SE Section 31, was a duster. Trenton was topped at 1,115 feet and drilled 330 feet in the Trenton to a total depth of 1,445 feet. Two other wells are under way in the same township, one by the Recovery Oil & Gas Co. on the J. S. H. Burch farm, Section 21, and A. A. Lauber's No. 2 on the Frank Burns farm, same section.

In Noble Township, Auglaize County, T. M. McMadden and others' test in the southwest corner of the Caroline Easterday farm, SW Section 10, was a dry hole. Trenton was topped at 1,150 feet, total depth 1,201 feet, or 51 feet in the sand. In Moulton Township, same county, C. Lester and others' test in the northeast corner of the Gus Kohler, NE Section 36, was also a dry hole, with sand found at 1,175 feet and found salt water 26 feet lower, or at a total depth of 1,201 feet.

Kelley Brothers are starting a test on the Earl D. Brown farm, Section 19, Perry Township, Allen County. McPherson and others are working on the E. Whitman farm, Section 31, Ballville Township, Sandusky County, just out of Fremont, about 6 miles west of Green Springs and about 9 miles north of Tiffin.

W. C. Parmalee is reported drilling on the David Zeis farm, Section 27, Seneca Township, Seneca County, 6 miles south and 3 miles west of Tiffin. Cameron & Son are reported drilling in the same township, and about 5 miles northeast of Carey, close to the Wyandot County line. C. L. Williams is reported working on the P. Stuckey farm, Section 32, Bloom Township, Seneca County, 1 mile east and about 7 miles south of Tiffin. C. L. Messer and others are starting the second test on the C. E. Dennis farm, Section 30, Pleasants Township, same county, 5 miles north of Tiffin.

CENTRAL OHIO

In Ashland County, Mohican Township, Meltzer and others have what shows an initial production of 13 bbls. from the Berea sand from 787-830 feet in No. 3 on the George W. Black farm, Section 34. Robinson and others' No. 2 on the Barbara Easley, Section 9, Lake Township, is a light gas producer along with an initial production of 10 bbls. from the Berea from 661-82 feet. No. 1, same parties, is in the Berea and ready for completion, in a test on the W. S. Wolf farm, same township. Ohio Fuel Gas Co. is drilling No. 1-5,145 on the Wade Welch farm, Section 12, Orange Township, and No. 2-5,131 Al Ott farm, Section 29, same township. In Montgomery Township, the Kemrow Co. is drilling on the John L. Smith, Section 1, and the Ohio Fuel Gas Co. is drilling No. 1-5,133 J. F. Long, Section 2, same township. The Kemrow Co. made a location on the J. N. Smeltzer, Section 34, Clear Creek Township, same county.

In Medina County, the Ohio Fuel Gas Co.'s No. 1-4,885 Frank R. Lytle, Section 6, Brunswick Township, reported dry. M. and S. Burtner are drilling a test on the V. A. Vandemark, Lot 27, Harrisville Township, same county.

In Lorain County, Carlisle Township, the Ohio Fuel Gas Co. has a gas well in No. 5-5,092 on the Julia A. Clark, Lot 13, and is drilling No. 1-5,123 Emanuel Eckler, Lots 8 and 13, same township.

In Wayne County, Wooster Township, Bryan and others' second test on the Henry Hixon, Section 13, was dry in the Berea from 488-543 feet, and they are now starting a test on the Harry Palmer, Section 9, same township. Ohio Fuel Gas Co. is drilling No. 1-5,096 George Wohlgemuth, Section 32, Congress Township, and Barnhart and others are drilling No. 4 Charles G. Britton, Section 5, same township. Faulkner and others are drilling No. 2 Albert Smyser farm, Section 26, Chester Township.

In Holmes County, the Ohio Fuel Gas Co. is drilling No. 1-5,143 on the Valentine Mellon, Section 20, Richland Township. Lydic Oil & Gas Co. made a location for No. 5 Charles Swank, Lot 10, Monroe Township. In Hardy Township, the East Ohio Gas Co. made a location for No. 4 S. H. Sterling, Lot 27, also a location for No. 3 Hugh McCullough, Lot 28.

In Knox County, Brown Township, the East Ohio Gas Co. has a gas well in No. 4 on the Arvilla Marshall farm, in the Clinton from 2,710-21 feet. Same company is drilling No. 4 Allen Scholes, Lot 38, and Ohio Fuel Gas Co. is drilling No. 1-5,075 William H. Diup, Lot 5, and No. 3-1,575 William Myers, Lot 28, same township.

Coshocton County

In Coshocton County, Newcastle Township, Ohio Fuel Gas Co. has a gas well in No. 2-4,002 Robert Giffin, and is drilling No. 1-5,129 John Snow, Lot 8, Monroe Township.

In Summitt County, F. A. Brendall and others' No. 3 Ed Dunn, Lot 35, Franklin Township, was dry and same parties are drilling No. 3 William H. Habel, Lot 25. Kime and others have a gas well in No. 3 C. L. Wilcox, Lot 26, same township, from 3,579-96 feet. F. A. Brendall and others have a duster on the A. H. Cummins farm, Section 6, in a broken sand from 4,017-46 feet. Same parties are drilling No. 1 William H. Humbert, Section 31, Greene Township, and Wittmer and others are drilling No. 1 R. C. Wittmer, Section 31, same township.

In Licking County, Fallsburg Township, Wittmer Properties, trustee, drilled a dry hole in No. 3 Sam Mossholder, Lot 14, and No. 2 is still under way on the same farm. F. M. Hugg, trustee, is drilling No. 1 J. H. Willie, Lot 13. Murphy and others are drilling No. 2 Jacob Hackley, Lot 13, same township. No. 1 on this lease was reported good for 95 bbls. initial. Emerald Petroleum Co. is drilling No. 1 William Babcock, Lot 13, same township. A. W. Patton and others are drilling No. 1 Albert Cutridge, in Franklin Township. In Perry Township, same County, Hope Construction & Refining Co. has a gas well in No. 4 L. C. Giffin, Lot 24, from 706-14 feet, which is the Berea sand. Same company is drilling No. 3 A. W. Howell, Lot 15. Hanover Township, and the Pure Oil Co. is drilling No. 5 Homer C. Priest, Lot 7.

In Muskingum County, Clay Township, William Kline and others' No. 1 Ramsbottom, Section 3, is reported at 190 bbls. initial from 3,444-90 feet. The Atha Co. got a gas well on the Bateman-McHenry, in the fourth quarter section, in Washington Township, in the Clinton lime at 3,919 feet, and the Wittmer Properties, trustee is drilling a second test on the Thomas J. Chaplin, same quarter section. Hopewell Gas & Fuel Co. made a location for No. 4 James M. Slide, Section 5, Hopewell Township. The Atha Co. made a location for No. 3 L. M. Bryan, Section 20, Perry Township. In Harrison Township, H. C. Farmer is drilling on the Ira L. Shurtz, Section 20. Davis Oil Co.'s test on the Charles J. Weaver farm, Section 16, Brush Creek Township, is a dry hole at 4,380 feet. In Union Township, the Atha Co. is drilling on the J. W. Riley, Section 6, and made a location on the J. K. Pitts, Section 17, same township.

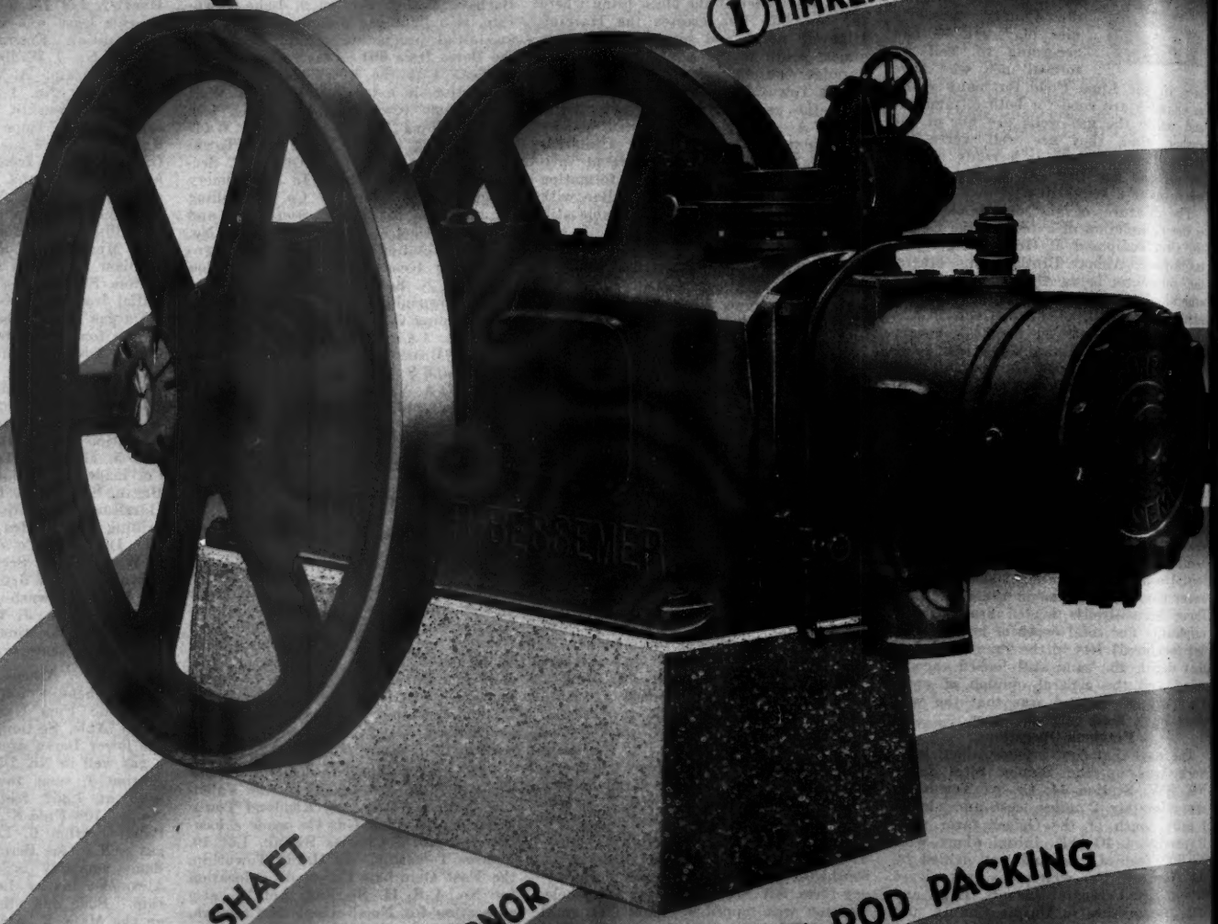
Athens County

In Athens County, Ames Township, the Ohio Fuel Gas Co.'s No. 1-5,026 Nellie Ahle, Section 6, is a gas well in the lower Berea sand at 1,496 feet, also a gas well in No. 1-5,085 G. L. Fleming, Section 4, same township, in the same sand at 1,352 feet. Same company's No. 4-5,108 Fred S. Moore farm, in fractional Section 6, Lodi Township, is a gas well in the Berea sand at 1,737 feet. Same company is drilling No. 2-5,137 Alexander Justice, Lot 4, Carthage Township. Bode and others made a location on the Mary E. Kelley, Lot 30, Alexander Township, and the Wittmer Properties, trustee is drilling No. 1 on the Hocking Fire Clay Co.'s land, Section 35, York Township.

In Meigs County, Sutton Township, Tyree and others' No. 17 William Carnahan, Section 11, reported at 5 bbls. in the second Cow Run sand from 610-30 feet. Bachelor and others' No. 2 Henry H. Foden, Section 11, was dry at 706 feet, failing to find any sand at that depth. No. 3, same farm, is drilling. Tyree and others are drilling a second test on the J. C. Jividen, Section 23, and the Big Four Oil & Gas Co. made a location for No. 3 W. J. Krider, Section 24, same township. Preston Oil Co. is drilling No. 7-1,416 C. and W. Easterday, Section 18, Sutton Township. In Rutland Township, Kiggins and others have a gas well in No. 2 on the J. H. Musser, Section 18, in the Maxon sand from 704-10 feet. Same party is drilling No. 2 Arvin Thompson, Section 20. Chase and others are drilling on the J. A. Colwell, Section 8, same township. Ohio Fuel Gas Co. is drilling No. 1-5,079 Lee Nelson, Lots 16 and 22, same township. In

(Continued on Page 156)

COOPER-BESSEMER TYPE-GA



(1) TIMKEN MAIN ROLLER BEARING

(2) A DIE-FORGED CRANK SHAFT

(3) A GREATLY IMPROVED GOVERNOR

(4) IMPROVED PISTON ROD PACKING

(5) SAFETY STOP OPERATING ON IGNITION

FOR LEADERSHIP IN PUMPING AND DRILLING

MORE RIGID AND STRONGER MAIN FRAME

WELL BALANCED

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STRONG AND DURABLE

HERE is a feature of the new Type-G A that is wining favor with companies on the lookout for a "trouble-free" pumping and drilling engine. With the new bed construction, a solid section surrounds the main roller bearings, thus eliminating the destructive bending action that is always present when a jaw is cut into the main frame. Note how the clean-cut, well balanced frame reflects strength and durability. This and five other improvements have increased the value but not the price.

THE COOPER-BESSEMER CORPORATION
Formerly The C. & G. Cooper Co. and The Bessemer Gas Engine Co.
Mount Vernon, Ohio Grove City, Pa.
Branch offices in all principal oil and gas fields

OU'RE ALWAYS SAFE IN CHOOSING A COOPER-BESSEMER

Fair Completions in Southeast Ohio

Licking County Well Produces 190 Bbls. Muskingum County Active. Good Gas Well in Tuscarawas County.

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., May 26.—In spite of the low prices for crude, the operators in southeast Ohio are finishing their drilling programs and there are a good number of completions reported with some very fair wells. In West Virginia drilling is still going on though it is confined mostly to well defined gas areas. In the southwest Pennsylvania Field drilling is about at a standstill.

The best well of the week was reported completed in Licking County where in Section 13, Fallsbury Township, Robinson and others completed their test on the Samuel Mosholder farm to the Clinton at 3,050 feet and during the 24 hours after the shot it produced 190 bbls. In Section 14, Hanover Township, Licking County, the Hope Construction & Refining Co. completed and shot its test to the Clinton sand on the Miner-Obannon farm and it produced 86 bbls. the first 24 hours.

In Lot 34, Washington Township, Tuscarawas County, the Gordon Oil Co. and others completed its No. 3 on the T. B. Shearer farm to the Niagara lime at a depth of 3,570 feet and it produced 125 bbls. the first 24 hours. Operations are still quite active in the Niagara lime section.

SOUTHEAST OHIO

In the new development in the SW, Section 3, Clay Township, Muskingum County, Frank B. Maullar & Co. completed their No. 3 on the State of Ohio Brick farm. It produced 110 bbls. the first day. In the SW Section 11, Perry Township, Muskingum County, the Wittmer Oil & Gas Co. completed a test on the Emma Buchanan farm to the Clinton sand at 2,945 feet and it was good for 25 bbls. the first 24 hours.

In the NE Section 20, Perry Township, Muskingum County, the Atha Oil Co. completed No. 2 on the Thomas Deyermon farm to the Niagara lime at 3,200 feet and it produced 25 bbls. the first 24 hours natural. In the NW Section 17, same township and county, the Ohio Fuel Gas Co. completed its test on the Michael Sandel farm to the Clinton at 4,500 feet and it is good for about 180,000 feet of gas.

In the SW Section 21, Oxford Township, Tuscarawas County, the Gordon Oil Co. and others completed a 30-bbl. producer in the Niagara lime at its test on the Sarah E. Ripley farm. In the SW Section 4, Harrison Township, Perry County, the J. W. R. Producing Co. completed No. 2 on the Daisy L. Rayland farm and it produced 30 bbls. the first 24 hours after shot.

Fair Gasser

The Gordon Oil Co. and others completed its test on the George W. Asher farm, Lot 31, Washington Township, Tuscarawas County, to the Niagara lime at 3,625 feet, and it is reported to be good for 2,000,000 feet natural.

Washington County

In the extreme SW Section 7, Aurelius Township, Washington County, Charles Parks and others completed their test on the Charles Parks lot to the Macksburg 500-foot sand, the depth being 507 feet, and it is a very light pumper. In the NW Section 27, Malaga Township, Monroe County, N. L. Stoudt and others completed No. 6 on the Fred Hoff farm to the Keener sand at 1,317 feet, and it is good for a 5-bbl. pumper after shot. C. W. Rich and others completed No. 4 on the Arthur H. Rich farm, SW Section 17, Seneca Township, Noble County, to the Berea grit at 1,472 feet, and it is good for about 1½ bbls. after shot. This well made a showing for 4 or 5 bbls. daily in the 700-foot sand at a depth of 705 feet.

In Section 126, Fearing Township, Washington County, Fred D. Meister and others completed No. 3 on the R. E. Berg farm to the Peeker sand at 758 feet and it is about a one-half-barrel pumper. In the same county, Section 5, Salem Township, J. C. Garner and others drilled No. 3 on the Herman Parks farm to the Berea grit at 1,746 feet and it is dry with a small showing of gas.

In Section 20, Grandview Township, Irving Fuller has about completed a test on the M. Jones farm, in Washington County. In Palmer Township, same county, Robert Turney has started to drill on the Myron E. Leasure farm. In Ludlow Township, W. A. Reed is drilling on the Martha L. Loman farm. In Lot 32, Salem Township, W. P. Price & Co. are drilling on the John Weppler farm. In Section 21, Wayne Township, Belmont County, C. W. Paine & Co. are drilling on the A. C. Shepherd farm. In Springfield Township, Jefferson County, Eaton & Co. are drilling on the Dorrence heirs farm. In Louden Township, George W. Elliott and others are drilling on the H. G. Buchanan farm, and in the same township are drilling on the Jennie Chase farm.

WEST VIRGINIA

There were some small to fair gassers completed in the West Virginia Field. On the waters of Greggstone Creek, Butler district, Wayne County, the Chartiers Oil Co. completed its test on the J. B. Saylor farm to the Corniferous lime at a total depth of 3,347 feet. It is a gasser good for 3,000,000 feet. On Big Two Mile Creek, Grant district, Cabell County, the Hamilton Gas Co. completed and shot in the Brown shale No. 7 on the A. J. Keenan farm and it is a fair gasser. On the same stream and district, the Larner Gas Co. completed and shot in the Berea grit No. 98 on the L. A. Knight farm and it is good for 1,500,000 feet.

In Logan district, Logan County, the Cumberland Petroleum Co. completed No. 4 on the Coal company's property a lease consisting of 4,000 acres, to the Big lime and has a gasser good for 1,500,000 feet. On Big Sandy Creek, Big Sandy district, Kanawha County, the United Fuel Gas Co. completed No. 4,217 on the J. D. Campbell farm to the Big Injun sand and it is a gasser good for 1,250,000 feet. In Geary district, Roane County, the United Fuel Gas Co. completed No. 4,214 on the Peter Parsons farm to the Salt sand, and has a gasser estimated good for 1,000,000 feet.

In Grant district, Ritchie County, the S. S. Y. Oil Co. completed No. 2 on the Charles Bradley farm to the Keener sand and it is a light gasser. In the same district and county, Ralph Roberts and others completed their test on the A. J. Jenkins farm and have a small gasser.

New Tests

In the Ellsworth district, Tyler County, the Oakland Oil & Gas Co. has placed a drilling machine at a location on the John Hintzman farm. In Cass district, Monongalia County, C. C. Nuss has made a location on the Michael Barrickman farm. On Wildcat Run, Murphy district, Ritchie County, the Hope Construction & Refining Co. has a rig up on the Neill Bradley farm.

In DeKalb district, Gilmer County, C. B. Lewis & Co. are testing for oil at No. 2 on the Clyde Amos farm. In the same district, F. D. Davis & Co. are fishing for a string of tools on the Alva J. Hardman farm. In Grant district, Ritchie County, C. B. Smith & Co. have discontinued drilling at a second test on the C. R. Bradley farm. In Scott district, Boone County, the United Fuel Gas Co. has rig material at No. 4,190 location on the Elizabeth Smoot farm. In the same district, the Owens Bottle & Machine Co. has made a location on the Cora Barker farm.

In Freemans Creek district, Lewis County, the Reserve Gas Co. has a rig up on the Flora Camden 47 acres. In Summit district, Harrison County, the Reserve Gas Co. has a rig up for a second test on the Stephen L. Pitts farm. In Mannington district, Marion County, the South Penn Oil Co. is due in the sand on the W. N. Cunningham farm.

SOUTHWEST PENNSYLVANIA

Abrams, Murdock and others have completed No. 4 on the Margaret Prosnick farm, Darlington Township, Beaver County, to the Berea and it is showing for about a 1 or 2-bbl. pumper.

In Hanover Township, Beaver County, Freshwater & Co. completed a test on the Mary Ferguson farm and it is dry. In the same township, John Clotty is drilling on the Sophia Lindoff farm. In Dunkard Township, Greene County, the Greensboro Gas Co.'s test on the Smith farm is a duster. In Perry Township, the South Penn Oil Co.'s test on the Newton Lemley farm is a 4-bbl. pumper. The Equitable Gas Co. is drilling on the Robert Lynch farm. A number of wells in Whitely Township are due in the sand. In East Finley Township, Washington County, the Natural Gas Co. of West Virginia has a rig on the J. Stollars farm. In Cecil Township, J. R. and C. C. Nuss are drilling on the Clark heirs' farm. In Plum Township, the Woodridge Forge & Tool Co. is drilling on its own property. In Franklin Township, M. M. Walley is drilling on the John Plegher farm. In Buffalo Township, Butler County, the T. W. Philips Gas & Oil Co. is drilling on the W. C. McFarlan farm and has a rig up on the Michael Figler farm.

MUHLENBERG COUNTY WELL DEEPENED LOOKS GOOD FOR 150 BBLS. INITIAL

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., May 26.—The feature in western Kentucky since the last review is the drilling deeper of the Ohio Oil Co.'s test on the Ramsom Lee farm, 3½ miles southeast of Greenville, in Muhlenberg County and 1½ miles south of the hamlet of Depoy. This well at a depth of 1,750 feet showed close to 2,000,000 feet of gas which was cased off to protect it from wasting and it was then drilled to a total depth of 1,820 feet where the well flowed furiously until shut in. The production has not yet been determined but looks good for an initial of better than 150 bbls. This test being a few miles in advance of production means much for the future of Muhlenberg County, and indicates that possibilities are good for deeper oil pays. The Ohio Oil Co., James C. Ellis and others have large lease holdings in the county and will develop them. The oil was found in what is called the McCloskey formation, in the Pennsylvania formations. When this sand was found in Lawrence County, Illinois, about 1910, it was named the McCloskey, but old-time Pennsylvania and West Virginia operators said it resembled the well-known Gordon sand of the East. The oil is of excellent grade as is most of the crude found in that part of Kentucky.

Some very interesting developments have been made recently in the Owensboro, or Tri-County Field of western Kentucky. One of the important late completions was made by the Whitmer Oil Co. of Pennsylvania, on the Bascom Hines farm of 114 acres, approximately a mile east of the town of Pleasant Ridge, and in the western portion of Ohio County, not far from the Daviess County line. The oil in this venture was found in the Jett sand at 835 feet and estimated at 50 bbls. or better initial.

Another well of note was drilled by the Johnson Oil & Refining Co., in a test on the E. R. Eaty farm, 5 miles or so northeast of the Jones Pool, one of the best pools yet found in the Daviess County area, and near the town of Habit, about 8 miles southeast of Owensboro. The sand was found from 905-57 feet and is the Jett sand, the well showing for around 75 bbls. initial, opening a new area for development work. This well is at least 2½ miles in advance of production, and makes the area between the well and the Jones Pool look very inviting, but there may be dry holes in the immediate vicinity of the good well as in many of the pools found during the past few years.

A wildcat drilled by the Creek Drilling Co., on the Barrett Hill farm, south of Liva, in McLean County, makes that territory a good prospect, as reports from the well are it looks good for at least 75 bbls. initial. This well is in the Maxwell area where Ohio, Daviess and McLean Counties corner, and extends the Maxwell Pool a short distance to the south.

Ohio County Wells

In the Hartford Field of Ohio County, James C. Ellis and others' No. 3, on the J. H. Evans is reported at 10 bbls. East of Whitesville, the same parties' test on the Miller farm is also showing for 10 bbls., and No. 1 on the Mitchell farm, in the Bells Run Pool, same county, produced 25 bbls. initially. Same parties' No. 1 Carden, near Hartford, is reported showing for 30 bbls., while No. 2, on the Frank McKinley, is a Jackson sand producer with 100,100 feet of gas.

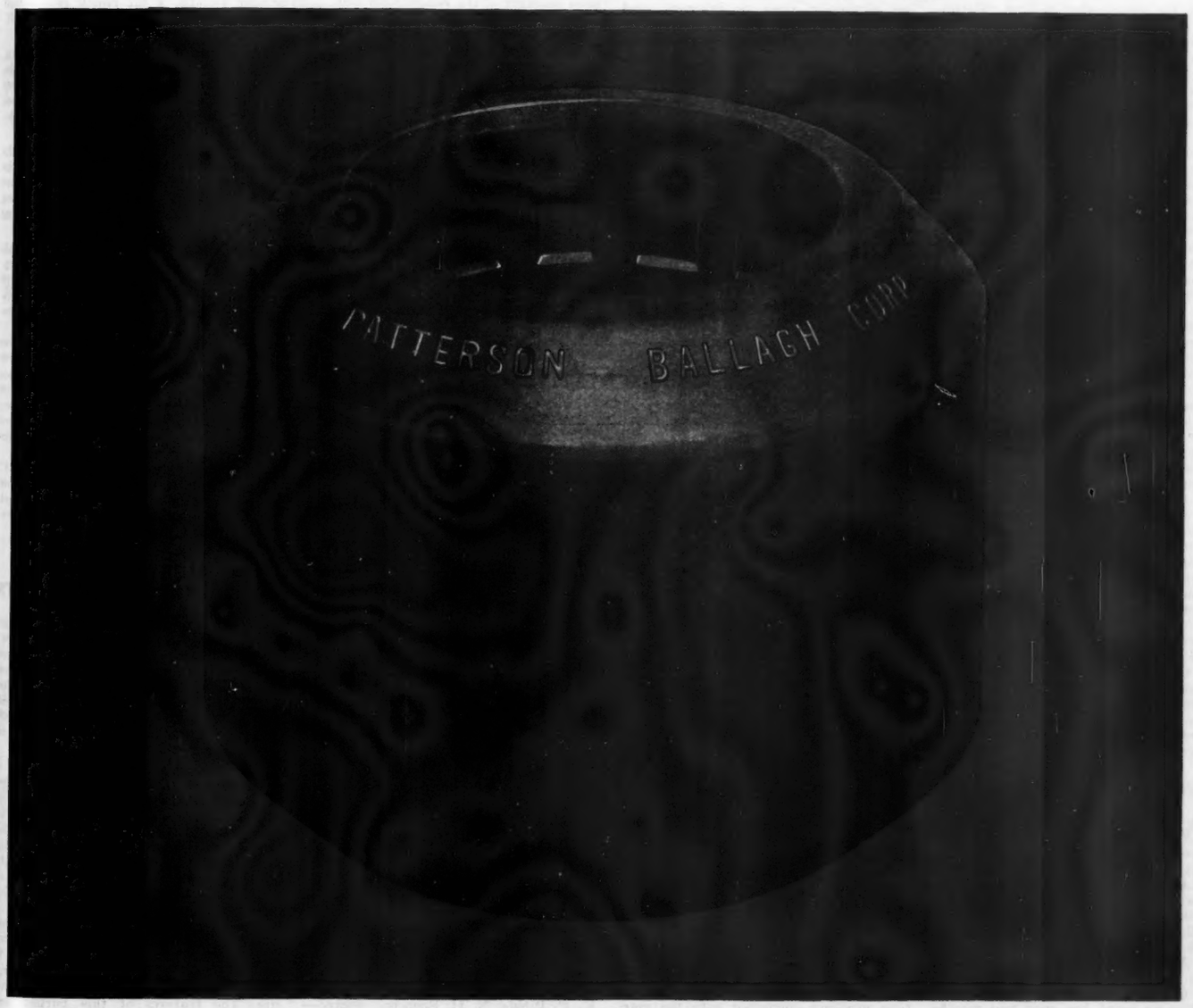
Cumberland Petroleum Co.'s No. 1 on the A. McCarthy, adjoining the Dave Brooks farm, in the Haynesville area, is reported at 35 bbls. Hupp, Duff and others' No. 12 J. A. Stewart farm, in the Buford Pool, in the western part of the county, is rated at 25 bbls. H. C. Smith Co.'s second well on the Ada Kelley 16 acres produced 15 bbls. initial from the Jett sand. Doctor Sirman's test on the O'Dell farm, between Dundee and the Narrows, in the northeastern part of the county, is a very fair gas producer.

Daviess County Wells

Daviess County is making a better showing in finding new production than at any time since the three-month shutdown. Hupp, Duff and others' No. 1 on the Cox heirs' farm, in the Daviess County portion of the Maxwell Pool, is rated at 100 bbls. initially. Johnson Oil & Refining Co.'s No. 1 E. R. Eaty, in the eastern part of the county, is reported at 75 bbls. at a total depth of 957 feet.

(Continued on Page 107)

interfere with fishing jobs!



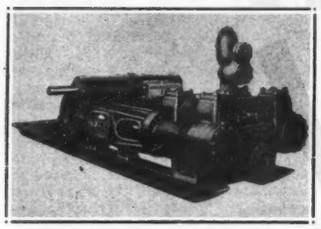
FULLY PATENTED

EQUIPMENT AND SUPPLIES

SLUSH PUMP PROVIDES UNREQUIRED STRENGTH

The Imperial No. 14-P (7¼"x14") is the power slush pump of the new series manufactured by the Oil Well Supply Co., Oil City, Pa. The Imperial No. 20 (15"x7¾"x20") and the Imperial No. 14 (14"x7¼"14"), together with the Imperial No. 14-P comprise the "Oilwell" new series.

In the new Imperial No. 14-P, the heavily constructed power end furnishes strength in excess of that actually required for present-day drilling. Particular attention was given this feature which resulted in the twin side crank construction for easily transmitting the rated power input. The twin side crank construction permits the use of a much shorter and stronger shaft with the advantage of roller bearings on the crank pins. To eliminate gear teeth chatter and to increase power transmission efficiency, single helical cut gears and Timken roller bearings on main bearings, crank pins and pinion shaft are used.



Pinion shaft and main shaft assembly can be reversed completely. This reversible feature permits doubling the life of gears and makes it convenient to drive the pump from either side. Two pumps can be run with the ends facing each other. The pinion gear can be reversed on its shaft, or the complete shaft changed from one-hand drive to the other without the necessity of correspondingly reversing the main gear to make the teeth mesh properly.

Complete protection of gears and bearings is afforded by their total enclosure in the power frame. The frame is a unit casting, bolted directly to the fluid end and making a rigid unit with only two principal castings. The cradle is longer than the stroke of the pump so that no part of the piston rod entering the fluid end of the pump can enter the power end, and in this manner prevents mud from getting into the power end.

Automatic lubrication to the various bearings, gears and crossheads is furnished through piping by means of a 10-feed force and sight feed lubricator. This lubricator, driven by the crosshead, is mounted on top of the frame directly behind the pinion shaft housing. The proper amount of fresh, clean oil is constantly drained. This system of automatic lubrication affords the utmost protection to the roller bearings, assuring safe, smooth and grit-free operation.

ARMCO SAFETY RECORD

On April 22 the Middletown works of the American Rolling Mill Co. of Middletown, Ohio, set a new Armco plant safety record by completing 1,300,000 man hours without lost time because of an accident. The record which started February 21, 1930, is still running. Middletown held the previous Armco plant man hour record. In 1929 the Middletown plant had 32 accidents for the period to date for which they now had two. To date in 1930, the Middletown plant has gone two months of three without losing time because of an accident.

NATIONAL DISTRIBUTION IS PLANNED BY NEILAN

Neilan, Schumacher & Co., Los Angeles, Calif., manufacturers and distributors of engineering specialties, are planning for national distribution of Neilan steam control equipment. The new line of steam regulators embodies such improvements as noncorrosive stainless steel valve stems and other parts, ball bearings, strong nickel-iron and chrome-alloy steel body castings, and the improved "Seatringuide" valve which reduces wire-drawing. Neilan steam line products include pump governors, reducing valves, auxiliary pilot operated float valves, steam traps and air traps and other items.

The company is building a new and larger experimental laboratory at its factory in Santa Fe Avenue, Los Angeles. T. J. Neilan, president of the company, said the present testing and research facilities had become inadequate.

When the new laboratory is finished and equipped, the present one will be used solely for testing and adjusting control equipment prior to shipment, and the new laboratory will be used exclusively for experimental research and development.

LINCOLN MEN TRANSFERRED

The Lincoln Electric Co., Cleveland, Ohio, manufacturer of "Linc-Weld" motors and "Stable-Arc" welders, has transferred three men from the manufacturing district to the welder service division as follows: John C. Ardagh to the Chicago district with headquarters in the Monadnock Building, Chicago; R. A. Kyle to the New York district with headquarters at 136 Liberty Street, New York, and Robert Newton to the Cleveland district with headquarters at the factory, Cleveland, Ohio.

BALDWIN AND DUCKWORTH ANNOUNCE MERGER PLANS

Official announcement has been made of the merger of the Baldwin Chain & Manufacturing Co. of Worcester, Mass., and the Duckworth Chain & Manufacturing Co., Springfield, Mass. The merged company will be known as the Baldwin-Duckworth Chain Corp.

The Duckworth company is widely known for its manufacture of motorcycle and bicycle chains and its Duckworth silent shock absorbing timing chains for automobiles. The Baldwin factory has specialized on larger type chains for industrial use, for tractors, elevators and similar uses.

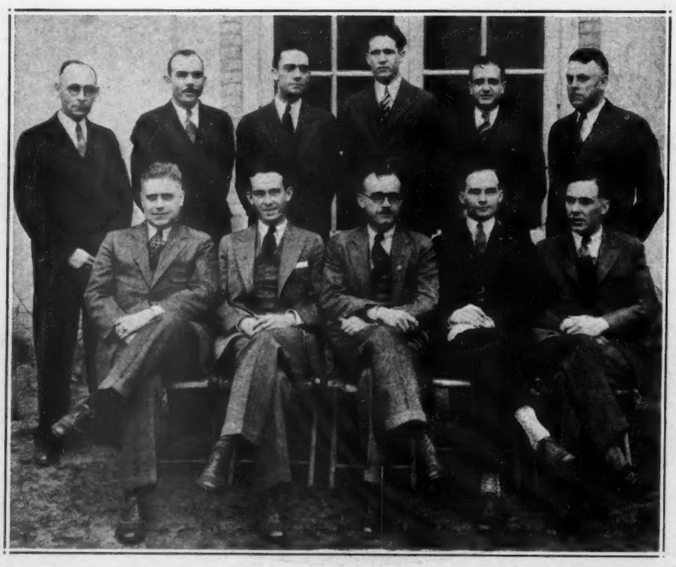
The new corporation will operate the present factories in Worcester and Springfield as separate divisions with administrative headquarters in Springfield. The officers are: President, George H. Empsall, Springfield; vice presidents, Frank J. Weschler, Worcester; William E. Gilbert, Springfield, and W. F. Cole, Worcester; treasurer, Mr. Weschler. George D. Gilbert has been appointed sales manager of the Baldwin division.

The assets of the new corporation are reported to be somewhat over $2,000,000. The combined factories will employ between 400 and 500 men.

BLASTING MACHINE IMPROVED

An improvement on the Hercules Ten Cap blasting machine, which makes the machine more moisture and dust-proof, is announced by officials of the explosives department of the Hercules Powder Co., Wilmington, Del. A special rubber gasket which seals case and cover has been developed as regular equipment and can be fitted to machines now in use. The Hercules Ten Cap blasting machine is of the dynamo type, is pocket size, and represents a late development in electrical machine design.

ALLIS-CHALMERS REPRESENTATIVES MEET IN DALLAS

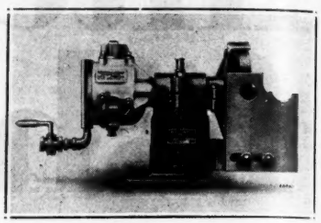


The Allis-Chalmers Manufacturing Co., Milwaukee, Wis., held in Dallas, Tex., recently a conference of its oil field representatives in the Southwest, at which time problems connected with the marketing of equipment in the petroleum industry were discussed. Those attending the conference shown in the accompanying photograph, reading from left to right: Standing—J. H. Kirkpatrick, A. E. Hunt, R. I. Moore, H. L. Reynolds, K. P. Ribble, N. H. Spencer. Seated—P. S. Paul, E. R. Hury, E. W. Burbank, manager; J. L. Gadberry, O. A. Haas.

BENCH-TYPE PEDESTAL GRINDER NOW OFFERED

The Ingersoll-Rand Co., New York, announce a bench-type pedestal grinder, known as the Type 9, which can be bolted to a bench or a portable air compressor.

The flow of air to the motor is controlled by a hand-operated globe valve. The machine has a free speed of 3,000 r.p.m. and is designed to take a vitrified grinding wheel 6 to 8 inches in diameter with a half-inch face. At the end of the grinder spindle, a bit chuck is screwed to take a drill or reamer with a half-inch straight shank.



The motor, which is of rugged design, has three cylinders, spaced about the center line of the spindle. All deliver power to one crank pin. The three cylinders are interchangeable. The motor operates in a bath of lubricant.

The exhaust is directed through the base of the machine, which prevents the grindings from being blown into the face of the operator. A steady rest in front of the wheel aids the operator in holding the work.

On contract work, a grinder of this type proves handy for grinding or sharpening chisels and picks, squaring up drill steel shanks, and taking care of the miscellaneous grinding jobs that are encountered.

Public utility companies find extensive use for such a grinder in connection with their truck-mounted portable compressor outfits. A grinder mounted on the truck enables the operator to take care of many odd grinding jobs when the compressor unit is at work on repair jobs or service installations.

Standard equipment includes one 8"x1" No. 24 Grade Q vitrified wheel for iron and steel grinding, and one bit chuck for half-inch straight shank or reamers. The necessary wrench is included.

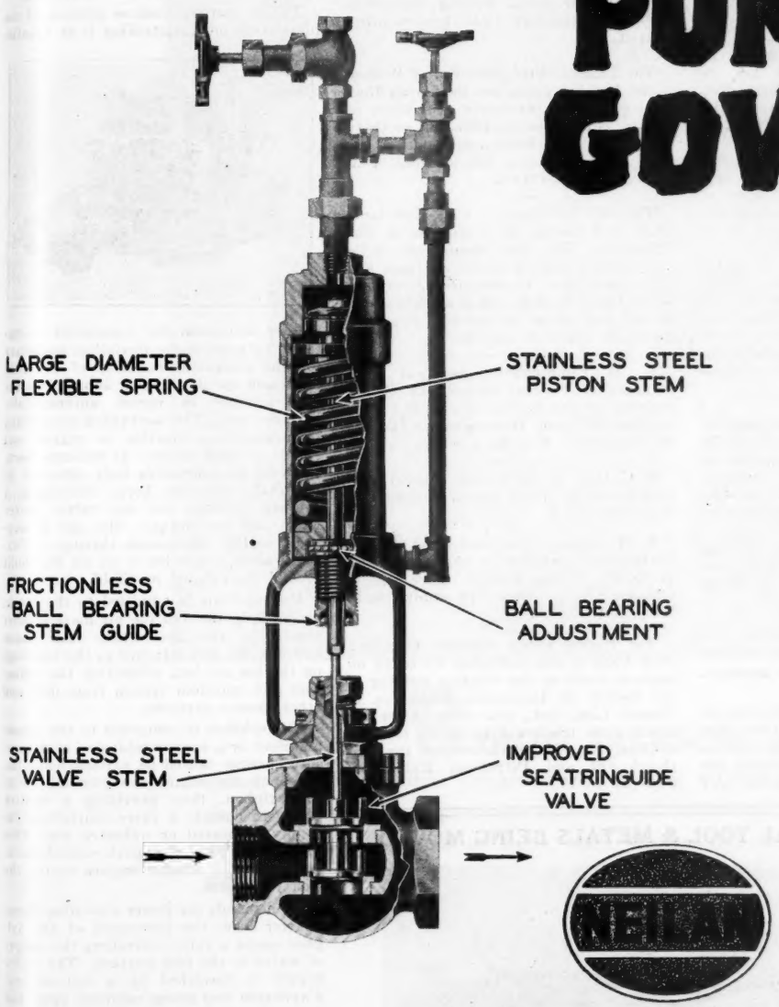
BURNER BREAKS UP GAS FLOW INTO MINUTE JETS

To meet the increasing demand of gas consumers for durable, efficient, and low-priced gas burners, the Duquesne Burner Service Co., Pittsburgh, Pa., has designed its Multi-Jet burner. It is primarily for operation under various types of oil field and heating boilers, stills, and in all applications where an efficient burner of rugged construction is desired.

The flow of gas is broken up into a large number of minute jets so directed as to inject the gas into the air flow at the proper angle for maximum efficiency of mixing and combustion. The burner also has a marked aspirating effect, due to the gas flow which greatly assists in securing the proper amount of air for combustion even when operating under poor draft conditions.

Gas is supplied through a central pipe and is distributed to the various jets by means of a manifold. The air control is obtained by a sliding plate which may be operated to give the most effective fire. The features of this burner are simplicity, ease of installation and effective performance.

Neilan PRESENTS the Ball Bearing PUMP GOVERNOR



The Neilan Ball Bearing Piston Pump Governor — the latest product of the Neilan Laboratory—embodies the ultimate results of many years of successfully designing and building quality regulators. With it, you are assured of sensitive operation and accurate pump or compressor discharge control.

The stainless steel valve stem of this governor floats in stainless steel ball bearings. This insures frictionless operation and long life by eliminating corrosion and rust. Then, too, all Neilan Ball Bearing Pump Governors are regularly equipped with the improved "Seatringuide" valve, milled from solid bar stock Monel Metal. This revolutionary valve eliminates the old wing-guided valve plug and guides its plug entirely with the "Seatringuide", as shown in the illustration. This new type of valve has increased capacity and reduced wire-drawing by removing flow turbulence.

A new Neilan Product which possesses all the excellence of design, materials and workmanship which has made Neilan products standard equipment throughout the oil world.

Write for the new Ball Bearing Pump Governor bulletin or call in your nearest Neilan Engineer.

NEILAN, SCHUMACHER & CO.

641-651 Santa Fe Ave., Los Angeles, California

Branch Offices

New York, 30 Church St. - - Rudolph B. Werey, Mgr.
Chicago, 55 E. Wacker Drive - - John M. Coffeen, Mgr.
Dallas, 5934 Victor St. - - - Eldrige V. Weaver, Mgr.
Maracaibo, Venezuela, Apartado 298 - Patrick H. Heeney, Mgr.

Representatives
Stocks Carried

Tulsa, 221 E. Archer St. - - - - Camp-Morgan Co.
Houston, 1400 Conti St. - Maintenance Engineering Corp.
Mid-Continent Representative—Roy O. Campbell

"YOU CAN BE SURE OF NEILAN PRODUCTS"

EQUIPMENT AND SUPPLIES

BLACKHAWK ANNOUNCES TWO NEW WRENCH SETS

The Blackhawk Manufacturing Co., Milwaukee, Wis., has put on the market two box type wrench sets. The wrenches have smoothly finished oval handles, comfortable and easy to grip. Improved broaching of the double hexagon open-

ings and slim heads to get into close quarters and over or under obstructions are features of the tools.

The trim chrome vanadium chromium plated box types in the sizes required by automotive mechanics are compactly and neatly arranged in a two-tone leatherette case.

The 2900 set is made up of six of the single offset type wrenches with the same size socket opening at each end of the wrench. Sizes in the 2900 set include: Seven-sixteenths inch, one-half inch, nine-sixteenths inch, five-eighths inch, eleven-sixteenths inch and three-fourths inch.

The three tools in the 2702 set are light and extremely short for automotive and aeronautical work in close quarters. These wrenches include the five most popular sizes in double hexagons. They are double offset with different openings at each end of the handle. The openings included in this set are three-eighths inch, seven-sixteenths inch, one-half inch, nine-sixteenths inch and five-eighths inch.

LABORATORIES TO BE OPENED

The Louisiana Paleontological Laboratories will be opened June 1 by Karl E. Young and A. R. Mornhinveg in Baldwin, St. Mary Parish, Louisiana. Mr. Young since January 1 has been engaged in paleontological and geological consulting work in southern Louisiana, but immediately preceding January 1 he was chief geologist of the Union Sulphur Co. and before that paleontologist and chief geologist of the Rycade Oil Corp., Houston, Tex. He is a member of the Houston Geological Society, a charter member of the Society of Economic Paleontologists and Mineralogists, and a member of the American Association of Petroleum Geologists. Mr. Mornhinveg formerly was paleontologist for the Union Sulphur Co. He is a graduate of the Louisiana State University in the department of geology, and is a member of the Geological and Mining Society of American Universities. These men will engage in working well cores and surface samples from the Gulf Coast.

RETAINS RHODEHOUSE AND OHL

Appointment of Harry Rhodehouse as general traffic manager of the Republic Steel Corp., Youngstown, Ohio, is announced. Mr. Rhodehouse held a similar position with the old Republic Iron & Steel Co. W. H. Ohl has been made comptroller of the new corporation. He served in the same capacity for the former Republic organization.

BUSINESS NOTES

The International Derrick & Equipment Co., Columbus, Ohio, has moved its New York office to the Brady Building, 90 West Street. A. L. Worack is district manager.

The Allied Construction & Engineering Co., Tulsa, has been incorporated by M. A. Ruthis, F. E. Richardson, W. C. Ray and A. W. Rush to engage in engineering, design and construction of works allied with the refinery, pipe line, gasoline, marketing and production operations of oil companies.

The Cook Drilling Co. has moved its headquarters from El Dorado, Ark., to 813 Electric Building, Fort Worth, Tex. Sam Cook is president, Joe Harrell, vice president, and J. H. Cook, treasurer.

The Edward Valve & Manufacturing Co. has appointed the Taubman Supply Corp., Tulsa, its representative in the Oklahoma and northern Arkansas districts for the sale of its products.

The Brown Instrument Co., Philadelphia, Pa., has consolidated its Chicago sales office and Midwestern factory branch in new quarters at 155 East Superior Street, Chicago. Practically double the former space has been provided for the growth of the company's business throughout the Middle West.

Lon R. Smith has been appointed assistant director of sales for the Hercules Motors Corp., Canton, Ohio, builders of four and six-cylinder heavy-duty engines. He will supervise export sales and sales promotion among Hercules distributors.

The Chicago Bridge & Iron Works has moved its Atlanta, Ga., office to the Rhodes-Haverty Building. R. M. Campbell is in charge.

The Stockham Pipe & Fittings Co., Birmingham, Ala., has appointed Germer Petesch, assistant general sales manager.

The new Carbide & Carbon Building at 910 Baltimore Avenue, Kansas City, Mo., permits the Union Carbide & Carbon Corp. to consolidate in one building the Kansas City offices of the Linde Air Products Co., the Prest-O-Lite Co., Inc., Oxweld Acetylene Co. and Union Carbide Sales Co.

April sales of the Climax Engineering Co., Clinton, Iowa, with main offices in Chicago, were 12 per cent greater than those for March, according to Walter J. Dukes, general sales manager.

The Wagner Electric Corp., St. Louis, Mo., has added Albert Shaw to its Salt Lake branch office sales force. Mr. Shaw is a mining engineer. He will specialize on coal and metal mining industries throughout the Salt Lake branch office district.

The Hazard Wire Rope Co. of Wilkesbarre, Pa., has appointed the Baash Ross Tool Co. as the exclusive distributor of all its wire rope products in southern California. The latter organization has field plants in Long Beach, Brea, Ventura Avenue and Taft.

The M. S. Maleson Co., Cleveland, Ohio, and George H. Fredricks & Co., Milwaukee, Wis., have been given exclusive sales rights in northern Ohio and Milwaukee for Hypressure Jenny, a water vapor machine which sterilizes, disinfects and cleans grease and dirt from nearly all types of surfaces.

G. B. Cunningham, assistant sales manager of Federal Phosphorus Co., a division of the Swann Corp., has been transferred from Birmingham, Ala., to the company's New York office.

T. G. Hart has been made general sales manager of the Terry Steam Turbine Co., Hartford, Conn.

L. F. Baash, president, and H. H. Clark, vice president in charge of sales of the Baash-Ross Tool Co., have gone to Oklahoma City, Okla., to study conditions in that field.

The Robert Bosch Magneto Co., Inc., New York, is demonstrating its heavy oil engined truck at the summer meeting of the Society of Automotive Engineers, at French Lick, Ind., this week. After the meeting the truck will be driven to State College, Pa., for exhibition at the National Oil and Petroleum Exhibition, June 12 to 14.

HOME OF NATIONAL TOOL & METALS BEING MOVED

The present home of the National Tool & Metals, Inc., shown here, is being dismantled and moved to its new location at the Los Nietos branch of the Globe Oil Tools Co., formerly the H. C. Smith Manufacturing Co., Inc. The plant pictured is in Torrance, Calif., where the National Tool & Metals, Inc., have developed an excellent plant.

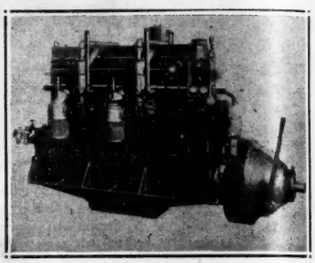
The illustration shows the office and one wing of the factory, the machine shop division. Further on down, behind these, are the furnace and electrical laboratory, the shipping and warehouse department, and the perforation department.

The growth of this company during the last few years has been marked and the oil tool manufacturers give much credit to M. G. Brumbly, vice president, and the other officials of the company who have helped build up this rapidly growing concern.

BLUE STREAK ENGINES RUN WITH DISTILLATE

The Climax Engineering Co., Chicago and Clinton, Iowa, announces that its line of Blue Streak engines is now provided with equipment making it possible to use fuel of 36° to 40° B. Mean effective pressures of 90 pounds per square inch are obtained. Equipment is the same as that employed on the gasoline-burning engine, with the addition of an oil rectifier, a heat control mechanism and a water supply for full load operation.

The oil rectifier reduces dilution of the lubricating oil, maintaining it at a satis-



factory minimum for successful operation. To provide the flexibility necessary for the successful handling of different loads and speeds the heat supplied to the fuel mixture is varied automatically with the load. The mechanism controlling this important function is rugged and simple in construction. It consists essentially of an aluminum body attached to the carburetor air horn, containing a sylphon bellows, an air valve, water valve and air cleaner. Hot air is supplied to this mechanism through a flexible conduit connected to an air box built around the exhaust manifold.

Unheated air is admitted to the mechanism body through the air maze cleaner shown in the illustration. Air maze cleaners are also attached to the openings on the hot air box, protecting the induction and manifold system from dirt and other foreign particles.

The sylphon is connected to the intake manifold by a copper tubing so that pressure changes caused by various loads imposed on the engine are transmitted to the sylphon, thus providing a motive power to operate a valve controlling the supply of heated or unheated air. This part is similar to the spark control mechanism used on Climax engines during the past two years.

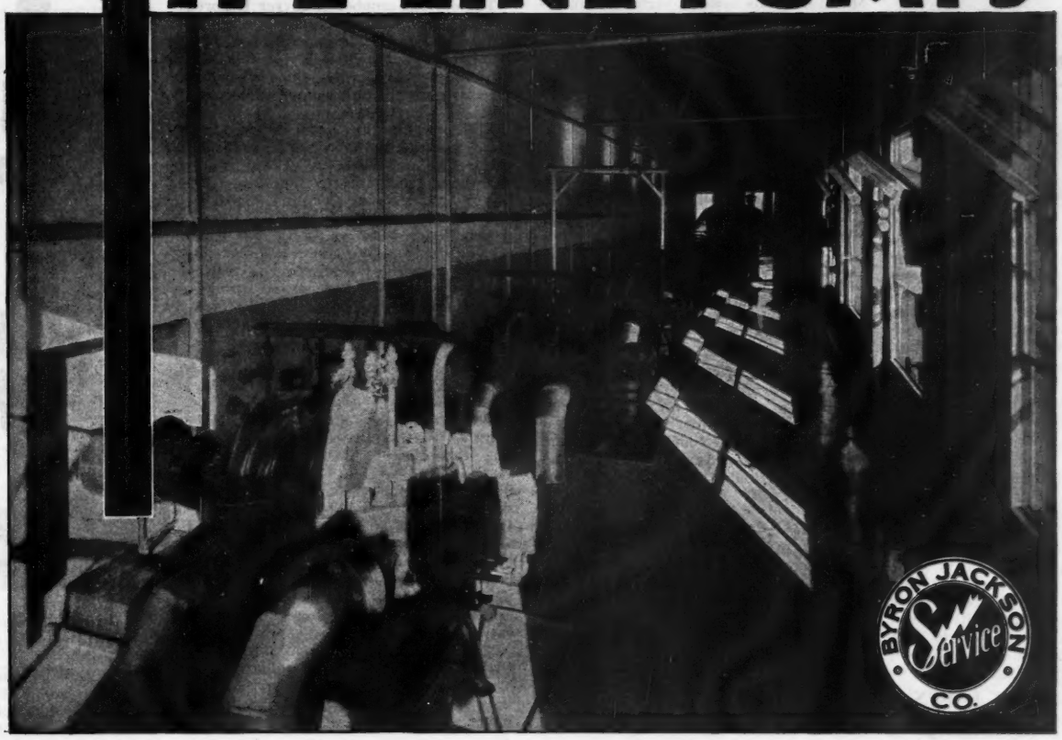
On demands for power exceeding three-quarter load, the movement of the sylphon opens a valve controlling the supply of water to the fuel mixture. The water supply is furnished by a conventional diaphragm fuel pump mounted upon and driven by the engine.

In starting, gasoline is used until the engine is warmed up and then the gasoline supply is cut off and the lower-grade fuel admitted, no other operation being required. On single carburetor engines one heat control device is used. In the illustration shown bearing two carburetors, dual equipment is provided, so that one design may be universally employed.

TURBO-MIXER MAKES CHANGES

The Turbo-Mixer Corp. has leased additional space in the new Crystal Building, New York, permitting consolidation under one roof of the general offices and the testing and research laboratories. Production of Turbo equipment will be shifted to Hudson, N. Y., where all manufacturing operations will be handled in one plant.

PIPE LINE PUMPS



BYRON JACKSON oil pipe line pumps are standard equipment because of their rugged construction, reliable performance and low pumping cost. Stocks of pumps and parts are maintained at strategic points in the field ◣ Byron Jackson engineers will be glad to work with you on the design of your next pipe line or the improvement of existing ones. A letter to our nearest branch brings this service to you.

SINCE 1872

BYRON JACKSON CO.

Factories: BERKELEY, Los Angeles, Visalia, Calif.

Branches: NEW YORK and CHICAGO

Houston, Tulsa, Dallas, Detroit, San Francisco, Portland, Salt Lake, Phoenix

BYRON JACKSON

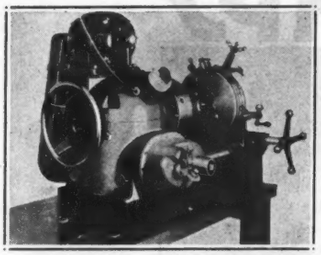
CENTRIFUGAL PUMPS FOR EVERY SERVICE

BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ BJ

EQUIPMENT AND SUPPLIES

PORTABLE BENCH-TYPE THREADER IS IMPROVED

The Oster Manufacturing Co., Cleveland, Ohio, is now equipping all Willie Williams portable power threaders with Domestic electric universal motors for-



merly used only on the Oster Power Boy threader. It is said by the manufacturer that this new motor not only speeds up the production of the machine, but also eliminates any tendency toward stalling because the speed of the motor is in direct proportion to the pull on the dies.

The Willie Williams can be furnished in either the bench or pedestal type. It is asserted that either type gives the operator the advantages of a complete large power machine, but with the added feature of portability.

Among the other features of the Willie Williams are the built-in cutting-off, reaming and chamfering tools, the built-in quick-opening die head that eliminates backing off, the geared oil pump and the two powerful chucks—one a heavy gripping chuck and the other a self-centering universal chuck. Both the bench type and pedestal type machines will thread, cut, ream and chamfer all sizes of pipe from one-fourth to 2-inch.

PROMPT SERVICE BY FOMON

In connection with the recent fire in the Bayonne, N. J., plant of the Gulf Refining Co., the American Fomon Co., Philadelphia, writes:

"In this connection, we believe you will be interested in the prompt response we were able to make to the emergency calls which we received Thursday afternoon, May 8. The first rush order for chemicals from the Gulf Refining Co. reached us about 3:30, and within one hour two trucks, each carrying 10,000 pounds of Fomon generator chemicals, were on their way. Shortly thereafter, two more trucks, carrying an additional 20,000 pounds of chemicals, left our factory at Paulsboro, N. J., for Bayonne. In the meantime we had received an order for replacement chemicals from the marine department of the Standard Oil Co. of New York, which had sent to the fire 11 of its tugs, each one carrying a Fomon generator and 2,000 pounds of Fomon foam generator chemicals. In all, approximately 100,000 pounds of chemicals were delivered by trucks. All chemicals were completely packed in new containers, sealed and holding standard even weights. No makeshift packages or chemicals were delivered. The above shipments covered, in entirety, all orders received and none were refused."

DRANE HUMPHREY DISTRIBUTOR

The National Tank Co., Tulsa, has appointed the Drane Humphrey Co. as distributor for its separators in the West Texas and New Mexico territories. The Drane Humphrey Co., of which Lee C. Donnell is president, has headquarters in Fort Worth and San Angelo, Tex., with branches carrying stocks in Hobbs, N. M., and in Pyote and McCamey, Tex.

TRADE LITERATURE RECEIVED

"Arc Welding in Industry" is an attractively printed and illustrated booklet of 40 pages prepared by the General Electric Co., discussing arc welding in various lines of work.

The Vent, published by the Gilbert & Barker Manufacturing Co., Springfield, Mass., contains news of various activities in which the company's employes are engaged.

Among articles in the current number of Oakite News Service, published by Oakite Products, Inc., New York, is a helpful one on an easy method of keeping greasing racks and pits clean.

The Barber Asphalt Co., Philadelphia, Pa., has sent out a folder describing Barberite acid-resisting, noncorrosive valves and special castings.

"Activated Carbon, the Modern Purifier" is the title of a booklet, written by Dr. C. L. Mantell, consulting engineer, and issued by the Industrial Chemical Sales Co., New York.

"Anyone except a born idiot will admit that the teaching and practice of safety are but an effort for the betterment of the workman, an effort to have him apply the doctrine of common sense in his work," says the April number of the News Letter published by the National Safety Council.

A bulletin on the Falcon continuous electric furnace for heat-treating strip metal and wire has been printed by H. O. Swoboda, Inc., Pittsburgh, Pa.

Traffic News, monthly magazine published by the Federal Motor Truck Co., Detroit, Mich., contains attractively illustrated articles relating to motor truck activities.

Articles of interest to those who use steel castings are printed in the Research Group News, published by the Electric Steel Founders' Group from its central office in Chicago.

Single flash distillation of coastal crude is described in the current number of Heat Engineering, published by the Foster Wheeler Corp., New York.

The current number of Sivyer Reports, published by the Sivyer Steel Casting Co., Milwaukee and Chicago, is devoted to Miraculoy, an alloy steel which is said to possess both hardness and ductility, properties which work against each other.

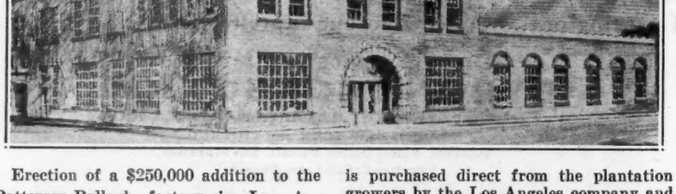
Bulletins on the Varec safety vent valve for tanks, Varec gauge and thief hole cover and Varec super-tank gauge have been distributed by the Vapor Recovery Systems Co., Compton, Calif.

A bulletin issued by the Coppus Engineering Corp., Worcester, Mass., describes oil-refinery equipment made by the company, including steam turbines, steam turbo generators, heat killers, blowers for cracking process and tank exhausters.

M'CLATCHIE ADDS TO PLANT

Constituting the fourth addition to the plant of the MacClatchie Manufacturing Co., Compton, Calif., within the last year, a new section of the factory is nearing completion, according to announcement just made by J. Warren MacClatchie, head of the oil field specialty and aircraft engine concern. The present construction adds more than 1,000 square feet of floor space to the section of the plant devoted to assembling. Plans are under way for still further expansion of the aircraft engine division of the company, which has developed the MacClatchie "Panther" L-head radial engine. The present engine manufacturing facilities will be doubled according to present plans.

PATTERSON-BALLAGH TRIPLES MANUFACTURING AREA



Erection of a $250,000 addition to the Patterson-Ballagh factory in Los Angeles, Calif., is under way to provide increased facilities for the manufacture of Bettis protectors, drill stabilizers and other industrial rubber products used in the oil fields. The new factory will have three times the area of the present one and part of it will be two stories in height.

The Patterson-Ballagh Corp. was formed about two years ago to manufacture Bettis protectors and more than 300,000 of these devices were manufactured in the present factory. The new facilities will permit the use of progressive manufacturing methods so that the rubber can be handled from one department to another with a minimum of labor costs and assure more efficient routing. The present output can be doubled.

Crude rubber from Sumatra and Brazil is purchased direct from the plantation growers by the Los Angeles company and is processed by methods especially developed to produce rubber of a toughness necessary for oil well service. When the new factory is completed a battery of six rolling mills will be placed in service. New testing equipment is being added to the laboratory facilities.

Machinery for the packing of protectors in special containers for overseas and tropic shipments is being installed and this is the first time that a company preparing mechanical rubber has designed special facilities for packing and protecting the product during transportation and while in storage in countries where severe climatic conditions exist, according to Jack C. Ballagh, secretary.

The company not only manufactures protectors but a line of slush pump piston rubbers, valve rubbers and special moldings for blowout devices, etc.

TUBING RETRACTOR HEAD ADDED TO McEVOY LINE

J. H. McEvoy & Co. of Houston, Tex., have added a tubing retractor head to their line of high-pressure casing and control heads. Even with tubing in the hole, this retractor is said by the manufactur-

ers to make it possible to open and close the master valve at the Christmas tree at all times.

The inside of the heavy forged steel bushing between the master valve and the main string of casing is a beveled seat or shoulder which forms a seat or rest for the tubing hanger. Supporting the tubing is the tubing hanger, which is made with deep flutes, affording free circulation between the casing and the tubing.

A bowl or seat is made into the top of the tubing hanger for a movable plunger, which works on a rack-and-gear assembly and is controlled by a hand wheel and spiral gear. The plunger is seated in the tubing hanger when the well is flowing. At any sign of trouble, such as a sand cutout in the manifold on the well, or a leak of any kind, it is but a moment's work to retract the telescope past the seats and gate of the well head manifold master valve, leaving the latter free to be closed. This retractor is said to be operated with ease under 2,500 pounds gas pressure.

AWARDED RUSSIAN CONTRACT

Arthur G. McKee & Co. of Cleveland, Ohio, have been awarded a contract by the Soviet government of Russia for a four-year construction project, which will include the installation of a gigantic steel mill plant, blast furnaces and auxiliary work. The project will involve the expenditure of $278,000,000 and an additional $55,000,000 for a power plant, which also will be built by Arthur G. McKee & Co. The contract includes the complete designing and oversight of the construction of the plant, which will almost equal in size those in Gary, Ind. The Soviet government has sent a large staff to Cleveland to confer with the American company on plans and other details, and this company in turn is sending a staff of engineers and technical men to Russia to launch the project.

Natural Gas Developments

WATCHING WILDCAT IN DICKSON COUNTY, TENN.

CHARLOTTE, Tenn., May 24. — Oil and gas possibilities of Dickson County are the subject of speculation as the result of a strong flow of natural gas struck by a well on the farm of W. R. Oakley, 9 miles from White Bluff. At a depth of 210 feet 2,000,000 feet of gas, it is estimated by the owners of the well, is escaping daily. Drilling is being carried on to lower sands, which it is hoped contain oil.

The well is the first of a series which a syndicate plans to drill on various locations on 2,170 acres of land leased in the White Bluff district. W. R. Grimes is trustee of the syndicate. T. J. Newell, former construction contractor, who has had oil field experience, is in charge of the drilling operations. W. M. Adcock is attorney for the syndicate. All are residents of White Bluff. Others in White Bluff and in Nashville are interested in the enterprise.

According to Mr. Adcock and Mr. Newell the venture was started on the strength of reports of geologists who investigated the region. Older residents of the White Bluff community say excitement was created 25 years ago when a heavy explosion in the middle of the night aroused folk from their beds. It was found the next day that the explosion had been caused by natural gas bursting from the ground a half mile from the site of the present well and leaving a great hole. The Oakley farm well encountered the first showing of gas at 10 feet.

PENNSYLVANIA NATURAL GAS MEN'S ASSOCIATION

PITTSBURGH, Pa., May 26.—A convention of the Pennsylvania Natural Gas Men's Association will be held at Oil City, Pa., on June 25 and 26, to which all interested in the natural gas industry are invited.

The association's president, George E. Whitwell, vice president in charge of sales of Equitable Gas Co., has appointed the following general committee for the convention: P. L. Mulkin, of United Natural Gas Co., chairman; W. H. Adams, of Manufacturers Light & Heat Co.; D. P. Hartson, of Equitable Gas Co.; J. French Robinson, of Peoples Natural Gas Co.; H. L. Smith, of Carnegie Natural Gas Co.; George Wittmer, III, of American Natural Gas Co., and B. H. Smyers, Jr., attorney for Equitable Gas Co. and secretary-treasurer of the association.

United Natural Gas Co., through its president, George E. Welker, has offered to act as host for the convention.

MONTANA GAS DEVELOPMENT

CASPER, Wyo., May 24.—The Central Montana Utilities Co. has been organized with the purpose of furnishing natural gas to the city of Lewistown. It is thought the company expects to drill near Winifred, about 35 miles north of Lewistown.

The Montana Public Utilities Commission will hold a hearing on the proposed increase of gas rates in several towns and cities, served by the Bowdoin Utilities Gas Co., at Malta, May 27. These towns have been supplied gas for rates as low as 15 cents per 1,000 until recently a merger was effected and it is now proposed to place a flat rate of 75 cents per 1,000 in effect. The city of Malta has hired an accountant and an engineer to appraise the properties of the gas company who will work in conjunction with similar committees from Glasgow, Hinsdale and Saco.

NATURAL GAS SUPPLY FOR NEBRASKA FARMERS

WASHINGTON, D. C., May 24.—The Agricultural Department is greatly interested over the news that farmers in Nebraska are to be supplied with natural gas. This service is stated to be available in several counties and it is said that 60 per cent of the farm homes within a half mile radius of the 175 miles of pipe line of the Nebraska Natural Gas Co., will be accommodated at prices similar to those charged in the nearest city and town. The estimates made by the company providing this natural gas pipe line indicate that it will have customers for an annual consumption of 3,300,000 feet of gas at 34.5 cents per 1,000 feet. The gas is to come from the Kansas Pipe Line & Gas Co.

The company, which is a subsidiary of the North American Light & Power Co., was authorized to issue $500,000 in common stock, $1,000,000 in 7 per cent preferred stock and $1,000,000 in 7 per cent 15-year bonds.

The Kansas company, as stated in the contract, has acquired a supply of natural gas fields in central and southern Kansas. The associated companies, it is stated, control about 70,000 acres of gas land in McPherson County, 12,000 acres in Stephens County, 14,000 acres in Rush County, and have a contract with the Barber Oil Co. in Barber County, covering about 25,000 acres. The North American companies also control about 20,000 acres in the Panhandle region of Texas.

It is the purpose of the Nebraska company, the order states, to sell gas to municipalities and to other distributing agencies at wholesale, and not to operate distributing systems except where there is no other way to handle the business.

A separate distributing company is yet to be organized which will handle the distribution in such places. The company also expects to supply large consumers and already has made a number of contracts with such companies as well as with other distributing companies, such as the Iowa-Nebraska Light & Power Co.

Testimony of the engineer is quoted in the order to the effect that a total expenditure of approximately $325 would enable a farm resident to secure a good gas range, water heater and other appliances in addition to providing for the connection charges.

"The evidence shows," the order continues, "that arrangements have already been made with some 30 farmers along the lines for service connection, and it is estimated that 60 per cent of the farm homes within a half mile or less of the pipe lines will receive service.

"It is the plan of the company to charge the farmer the same price for gas that is paid by the nearest city or village consumer."

MONROE AWARD

Application for the Charles A. Munroe award, which is a national recognition for outstanding achievement in the gas industry, now are being received by the American Gas Association, 420 Lexington Avenue, New York City. The award will be made to the individual who is found to have made the outstanding contribution toward the advancement of the gas industry during the period from July 1, 1929 to June 30, 1930.

All applications will be considered by a committee consisting of Arthur Hewitt, chairman, of Toronto, Ontario; F. C. Freeman of Providence, R. I., and N. C. McGowen of Shreveport, La. The recommendations of this committee will be submitted to the executive board for approval.

KETTLEMAN HILLS LINES RUSHED TO COMPLETION

LOS ANGELES, Calif., May 24.—The network of pipe lines that will supply Kettleman Hills natural gas to central and northern California is rushing on to completion. More than 500 workmen, equipped with every possible labor and time-saving device, are busy early and late, laying the second 200-mile feeder line up the San Joaquin Valley and 150 miles of branches to cities of the San Joaquin and Sacramento Valleys.

The valley line will be tied in within a month with the Bay line, which was completed last August, and, in addition to supplying San Joaquin and Sacramento Valley points, will provide an alternate source of supply for the hundreds of thousands of consumers in the bay cities. In fact, it is now so near completion that the work of changing over from manufactured to natural gas in San Francisco and the Eastbay centers has already commenced and is proceeding at the rate of about 1,100 homes a day.

The valley line, which will be the largest high-pressure natural gas main in the world, is being built jointly by the Pacific Gas & Electric Co. and the Standard Oil Co. of California and will be operated through the Standard-Pacific Gas Line, Inc. It will have 119 miles of 26-inch pipe, 26 miles of 24-inch pipe and 55 miles of 22-inch pipe. The largest pipe in the Bay line is 22 inches.

The outstanding feat of the present job was the crossing of the San Joaquin River with the Stockton-Sacramento branch line. The river where the crossing was made is 600 feet wide. It would be unwise to cross with one pipe, so instead of one line of 16 inches, four of 8 inches were put in place. A trench was dredged far below the river bed. While it was being dug the four lines were welded, wrapped and towed into position on barges. Then a floating crane lowered them into the trench.

The 26-inch line will extend to a point just west of Pittsburg. There it will be again reduced to 20 inches, and in that shape will extend to San Pablo, where it will tie in with the Richmond extension of the Bay line. The principal hook-up of the two systems, however, will be through a 22-inch cross line from Tracy to the Bay line at Milpitas.

An 80-mile extension from near Tracy will serve Stockton and Sacramento and the communities now supplied from the gas plants of those two cities.

Another branch will run from Crockett to Vallejo, by way of the Carquinez bridge, and will be extended 35 miles to Petaluma, to tie in with the system now supplying manufactured gas to the cities of Marin, Napa and Sonoma Counties.

On the heels of the pipe-laying crews other gangs are erecting stations to furnish the natural gas with a distinctive odor. One station near Vernalis, in San Joaquin County, will odorize the gas in the main line, and another, nearby will take care of the Sacramento branch. A third station, already constructed, sends an odor into the Bay line at Milpitas. This will be enlarged and other plants will be installed as additional branch lines are laid.

SHALLOW GAS FIELD NEAR CISCO

CISCO, Tex., May 24.—A new shallow gas field is being developed in the area 7 miles northeast of Cisco. A 4,000,000-foot gasser has been brought in a depth of 1,643 feet, 2 feet in sand, by the Rover Drilling Co. on the Chastin estate. This well will be drilled deeper. Two other shallow gas wells of considerable production are already located in the area.

SURPLUS NATURAL GAS FOR EAST ST. LOUIS

ST. LOUIS, Mo., May 26.—The disposal of surplus natural gas to large industrial consumers in the East St. Louis territory is being undertaken by the Cahokia Manufacturers Gas Co. through special contracts with prices lower than the regular rates, it is shown by petitions filed with the Illinois Commerce Commission.

The Cahokia company states that it has entered into a contract with the Mississippi River Fuel Corp. for the purchase of a larger volume of gas than is required at this time to fulfill regular contracts for resale at regular rates it desires to dispose of such surplus gas until such time as it can develop its business and sell such gas at regular rates.

The contracts submitted to the commission for approval provide for the sale of gas to the Alton Barium Products Co. at 23 cents net per 1,000 cubic feet, to George S. Mephan & Co., of East St. Louis, operating a dry paint pigment plant, at 36 cents net, gas to be furnished under a pressure of approximately 10 pounds, and the Hill Brick Co., near East St. Louis, at 20 cents, under a pressure of approximately 5 pounds.

It is stated in the Mephan company contract that this consumer can use surplus natural gas estimated at approximately 10,000,000 feet a month.

The regular rates of the Cahokia company as filed with the commission last January and made effective by order of the commission provide rates for industrial consumers using not less than 1,500,000 feet a month of 58 cents per 1,000 for the first 2,000,000 feet, 43 cents for the next 4,000,000 feet, 33 cents for the next 4,000,000 feet, and 28 cents for all over 10,000,000 feet.

Rates for consumers using less than 1,500,000 feet per month range from $1.50 per 1,000 for the first 5,000 feet to 55 cents for all over 200,000 feet.

These rates are made subject to a discount of 3 cents per 1,000 feet to consumers signing a five-year service contract, and notice is included in the schedule that beginning December 1, 1934, the rates will be increased 2 cents per 1,000.

The schedule and the special contracts submitted to the commission provide that if the heating value of the gas as delivered test lower than 950 B.t.u. per cubic foot the charges shall be decreased proportionately. A general order of the commerce commission relating to gas utilities includes a requirement that the average heating value of manufactured gas shall be not less than 565 B.t.u.

CANADIAN GAS NEWS

CHATHAM, Ontario, May 24.—Dr. J. A. Allen, provincial geologist for Alberta, is completing field work in the Vegreville, Alberta, municipal gas reserve preparatory to selecting drilling sites for the Vegreville Natural Gas Co., which is planning to develop a gas supply for Vegreville.

In the New Brunswick fields, New Brunswick Gas & Oil Fields, Ltd. of Moncton has completed three new wells in the Stoney Creek gas field and cleaned out and deepened four old producers. The field yields gas from several horizons, production being distributed by the company to the city of Moncton and the town of Hillsboro.

Medicine Hat, Alberta, municipal council has adopted a new scale of gas rates for manufacturers. The rates per 1,000 feet are on a sliding scale, ranging from 6½ cents per 1,000 for the first 1,000,000 feet to a minimum rate of 2 cents per 1,000 for consumption over 10,000,000 fefet.

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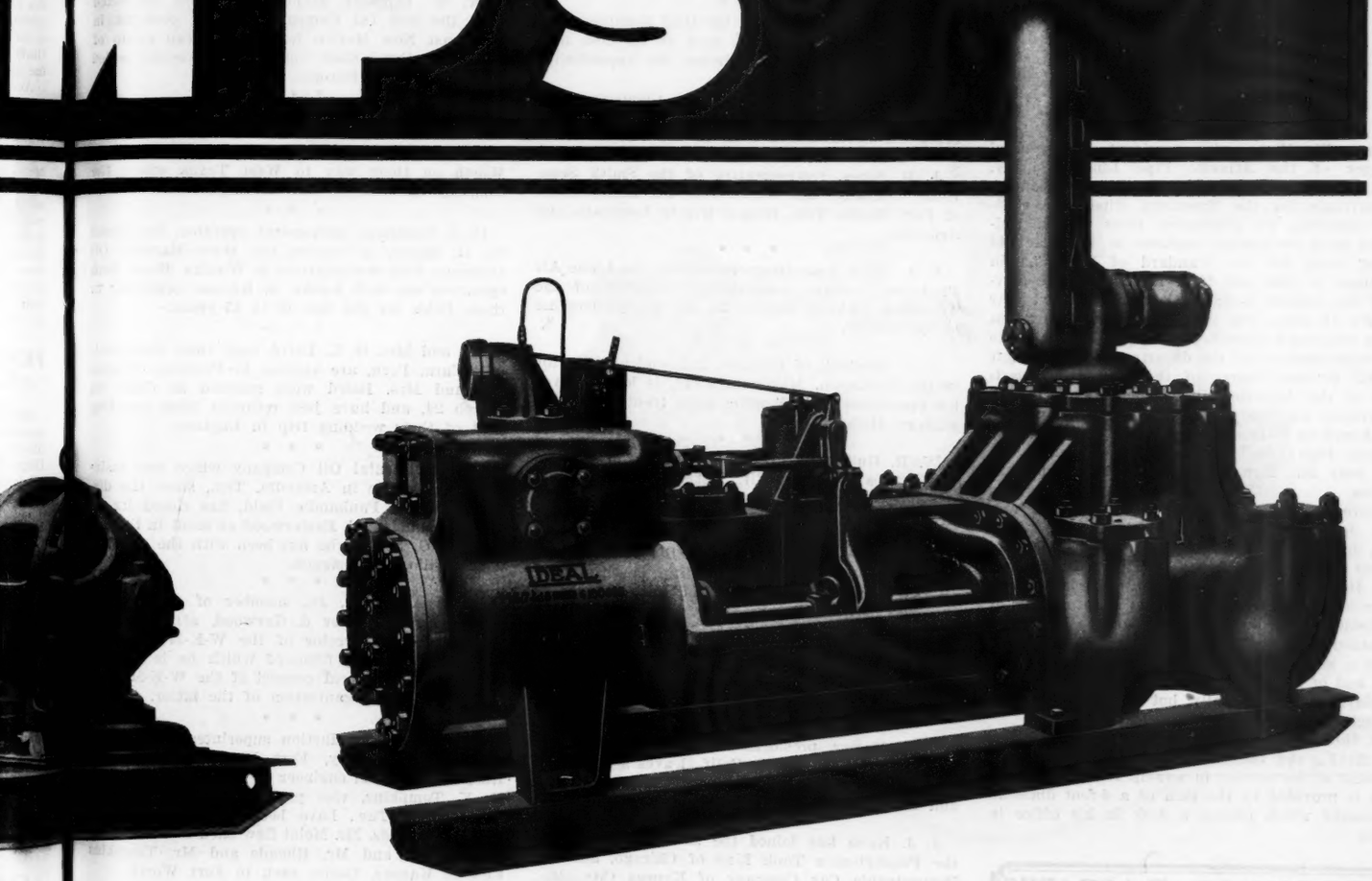

IDEAL 14 X 7¼ X 14-inch Type "B" Slush Pump

ASK FOR DESCRIPTIVE BULLETIN No. 65

TE
AL SUPPLY
OMANIES

MEN KNOWN IN OILDOM

R. W. Howe

Ralph W. Howe, vice president and general manager of the Atlantic Pipe Line Company, went to work on pump station construction in Pennsylvania for the Tuscarora Pipe Line Company following his graduation from Cornell University as a mechanical engineer in 1908. He did similar work for the Standard of Louisiana in Louisiana in 1909 and 1910. He entered the service of the Atlantic Refining Company the next year and for 11 years was in the paraffin department of the company's asphalt plant in Philadelphia. He was superintendent of the department when he left in 1922 to take charge of the pipe line department of the Atlantic Oil Producing Company in Shreveport, La. The offices of the company were transferred to Dallas, Tex., in 1927, and when the Atlantic Pipe Line Company was organized the next year Mr. Howe was placed in his present position.

Before entering Cornell, Mr. Howe, who was born in northern Westchester County, New York, in 1885, attended the Katonah high school in that county and Blair Academy in Blairstown, N. J. He is a member of the Pipe Corrosion Committee of the American Petroleum Institute and of the Group 3 pipe line subdivision of the committee on measuring, sampling and testing of crude oil. He is a member of the Engineers Club, Philadelphia, and of the Glen Haven Country Club, Dallas. He plays golf occasionally, but gets more fun out of duck hunting on the Gulf Coast.

Mr. Howe married Miss Isabella Betzner, of Hornell, N. Y., and they have two children. A daily reminder of his service in swamp regions of Louisiana is provided by the skin of a 6-foot diamond rattlesnake which adorns a desk in his office in Dallas.

PERSONAL PARAGRAPHS

Earl Hueston is in Petrolia, Ontario, on four months' furlough from the Peruvian fields.

* * *

Carl B. Johnson, of Tulsa, geologist for the Johnson Oil Refining Company, has been spending several weeks in Michigan.

* * *

Robert Edwards, scout for the Gulf Refining Company, at Shreveport, La., is recovering from an operation for appendicitis.

* * *

C. A. Obenchain, of the General Land Office, Department of the Interior, is in Denver checking records of patents to oil shale lands in Colorado, Utah and Wyoming.

J. A. Boylan, of the Venezuelan Oil Concessions land and legal department, has returned to the United States on sick leave.

* * *

Bloss Josh, who has been on a drilling contract in Persia for three years, is spending several months at Petrolia, Ontario.

* * *

Guy I. Warren, of the Swastika Oil & Gas Company, has returned to Muskegon, Mich., from Dallas and Fort Worth, Tex.

* * *

R. B. Downie, geologist for the Barnsdall Oil Company with headquarters at Wichita, Kans., spent three days in Tulsa last week.

* * *

Russell Moore, formerly with the W-K-M Company, is now representative of the Beaumont Iron Works with headquarters at Dallas, Tex.

* * *

S. A. Judson, chief geologist of the Humphreys Corporation, Houston, Tex., has been spending a short time in New York City on business.

* * *

J. S. Cullinan, Houston, Tex., head of the American Republics, Inc., and affiliated companies, has returned following an extended trip in the East.

* * *

R. C. Edwards, scout for the Gulf Refining Company at Shreveport, La., is back at his desk having recovered from an operation for appendicitis.

* * *

R. G. Greene, of the Union Oil Company's geological department, is on a reconnaissance trip covering the northwestern area of the Pacific Coast.

* * *

J. M. Sides, representative of the Smith Separator Company, has returned to his headquarters at Fort Worth, Tex., from a trip to Louisiana and Arkansas.

* * *

E. A. Doyle, consulting engineer of the Linde Air Products Company was elected president of the American Welding Society at the annual meeting of the society.

* * *

C. C. Mitchell, of Chicago, independent operator in the Muskegon, Michigan, Field, is looking over his operations and planning some trout fishing in western Michigan.

* * *

W. R. Gulberson, of the Gulberson Corporation, was in Los Angeles, Calif., last week but has subsequently returned to the company's principal office at Dallas, Tex.

* * *

James A. Talbot, chairman of the board of the Richfield Oil Company of California, has been elected to the directorate of the California State Chamber of Commerce.

* * *

W. W. Scott, chief engineer of the Humble Oil & Refining Company, has returned to Houston, Tex., from a week's trip through the Panhandle and West Texas Fields.

* * *

L. S. Hamer, president of the Hamer Oil Tool Company of Long Beach, Calif., leaves soon for an extended trip through the West Texas, Gulf Coast and Mid-Continent fields.

* * *

J. J. Keim has joined the sales department of the Pennsylvania Tank Line of Chicago, and the Pennsylvania Car Company of Kansas City, Mo., with his headquarters at Kansas City.

* * *

J. S. Fox, scout for the Arkansas Fuel Oil Company at Shreveport, La., has been transferred to the East Texas division with headquarters at Tyler and will move his family there June 1.

* * *

C. E. Tabor is directing the operations of the Milham Exploration Company in California during the absence of P. M. Logan, vice president and general manager, who is on a temporary leave of absence due to illness.

* * *

Lee O. Koen, vice president of W-K-M Company, Inc., has returned from an extensive trip through the California oil fields, where he has been studying new equipment and methods. The trip took him away from his Houston, Tex., office nearly three weeks.

H. V. Moffatt has been directed by the United States Geological Survey to examine into special cases regarding oil and gas prospector's permits for which purpose he is now in Casper, Wyo.

* * *

John L. Cummings, division superintendent for the Cities Service Gas Company, stationed at Pampa, Tex., has resigned and accepted a position with the Missouri-Kansas Pipe Line Company.

* * *

O. H. Carlisle, Houston, Tex., assistant sales manager of the Gulf Refining Company, has returned from Columbia, Mo., where he was present at the funeral of his father-in-law, Manuel Drumm.

* * *

C. C. Anderson, engineer of the helium division of the United States Bureau of Mines, has been in the San Juan Basin, northwestern New Mexico, investigating and taking samples of natural gas for chemical analysis.

* * *

George E. Newlin, president of the Standard Oil Well Cleaning Company, Los Angeles, Calif., is spending some time in Tulsa in connection with the introduction of a high pressure device for cleaning perforated lines.

* * *

Dr. W. Tappolet, geologist, formerly connected with the Sun Oil Company, district geologist in Northeast New Mexico for the Mexican group of the Royal Dutch-Shell Corporation, recently sailed from Tampico to Europe.

* * *

H. W. Klein, general production superintendent and F. J. Keleher, assistant secretary-treasurer of the Dixie Oil Company, Tulsa, passed through Fort Worth on their way to West Texas where the company has considerable holdings.

* * *

D. J. Marshall, independent operator, has joined W. H. Moore, in forming the Moore-Marshall Oil Company with headquarters in Wichita, Kans. Both operators are well known in Kansas, operating in those fields for the last 10 to 15 years.

* * *

Mr. and Mrs. G. L. Baird (nee Irene Cameron), of Talara, Peru, are visiting in Petrolia, Ontario. Mr. and Mrs. Baird were married at Colon on March 24, and have just returned from spending part of their wedding trip in England.

* * *

The Continental Oil Company which has maintained an office in Amarillo, Tex., since the discovery of the Panhandle Field, has closed its office, retaining C. E. Easterwood as scout in the district. C. G. Scott, who has been with the company at Amarillo, has resigned.

* * *

James A. Baker, Jr., member of the firm of Baker, Botts, Parker & Garwood, attorneys, has been elected a director of the W-K-M Company, Houston, Tex. The firm, of which he is a member, has been general counsel of the W-K-M Company since the organization of the latter.

* * *

H. A. Melat, production superintendent of Gulf Production Company, Fort Worth, Tex., T. W. Rhoads, petroleum engineer of the company, and H. K. V. Tompkins, vice president of the company, at Houston, Tex., have been making a tour of Oklahoma fields. Mr. Melat flew back to Fort Worth from Tulsa, and Mr. Rhoads and Mr. Tompkins flew to Kansas, thence back to Fort Worth.

* * *

A group of Amerada officials and department heads have been making an inspection tour of West Texas, New Mexico and South Texas,, including A. M. Blow, vice president; A. Jacobsen, vice president; H. G. Officer, head of the land department and assistant to Mr. Jacobsen; and Sidney Powers, chief geologist, all of Tulsa; H. E. Marsh, head of the land department, Fort Worth, Tex., and A. R. Dennison, district geologist, Fort Worth.

* * *

Warner Clark, head of the California Company, Dallas, Tex., has been elected chairman of the Yates Pool Advisory Committee. W. A. Moncrief has been chairman since 1928, but resigned because he now has no production interests in the pool since the Savoy Oil Company sold its holdings some time ago. Mr. Moncrief has an interest in that company.

Wilson–Snyder

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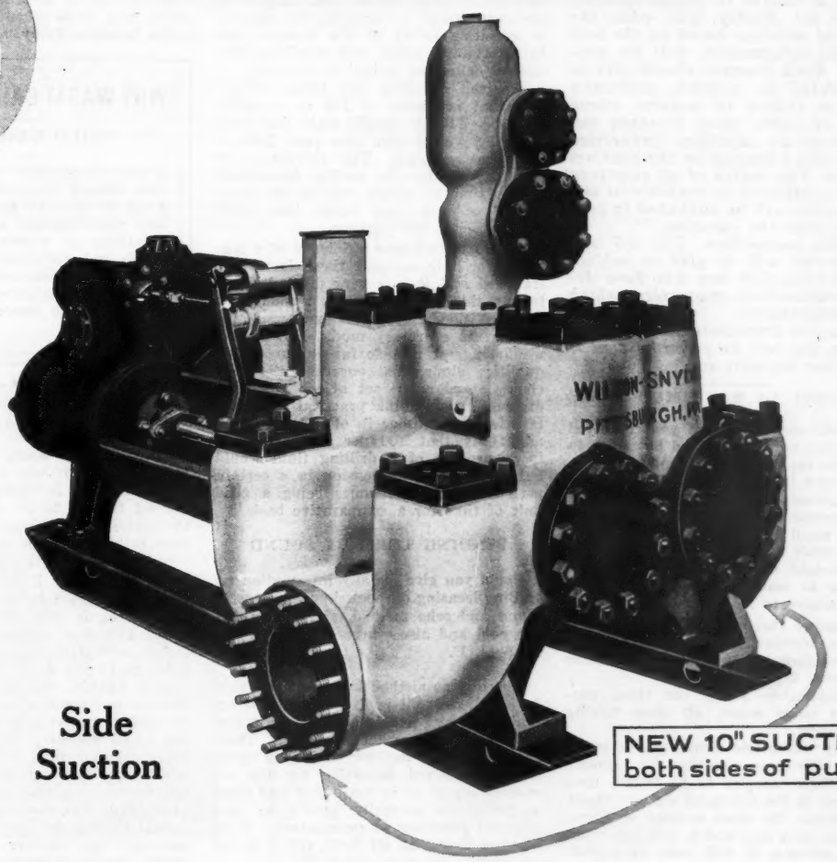

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Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

HOW BEST TO MAKE MUD TESTS

I would appreciate it if you could tell me of some accurate method by which to determine the relative efficiency of a material which is to be added to the drilling mud, against another material, for the same purpose. In other words, I wish to make a small test of two or three different materials which are being sold to give added weight to drilling mud, and it is my idea to make the tests as follows, three samples to be tested:

1. Secure three graduated test tubes, weighing identically the same. This to be determined on an accurate balance (laboratory type).

2. Accurately weigh out three portions of clean water, all three having same weight.

3. By volumetric measurement, measure out the same quantity (by volume) of the three samples to be tested, then add these to the measured water. Shake each sample the same number of times, and then, by a stop watch, note the number of minutes it will take each individual sample to settle out clear to a certain calibration plant on the graduated test tube.

4. Add the same weight of the same mud to these three samples, in test tubes. Shake well again, and again note time for settlement, as in the fourth stage of the test.

5. Then weigh each sample, to determine which has the greatest efficiency for adding weight to the mud.

6. Take three other test tubes, same quantity of water as above, but weigh out testing material, using same weights of these materials, then note settling out.

Please advise me on this, if you know of any more accurate way.—R. C. F.

The foregoing question was submitted to C. P. Parsons, of the Halliburton Oil Well Cementing Co., and this department is indebted to him for the answer which follows:

"On studying the question which you attached to your letter, I think R.C.F.'s method of testing the suspension qualities of different types of mud to be all right, with the exception of paragraph 3. In the description of the test in that paragraph he says by volumetric measurement measure out the same quantity by volume of the three samples to be tested. If these samples are dry powders, I suggest that they be weighed, as there is not sufficient assurance of accuracy in measuring dry powders. Evidently his idea is to put a certain volume of dry powders into a certain weight of water and then weigh the mixture, as he states in paragraph 5, to determine which mixture has the greatest efficiency for adding weight to the mud. I believe this can be more accurately determined by using a unit weight of water and a unit weight of dry powder and then, from the combined volume, which would vary from one test sample to another, the density or specific gravity of the mixture can be determined, which will show the efficiency for adding weight to the mud.

"Instead of using test tubes, I suggest that graduates of 100 cc. capacity be used. R.C.F. could make his mixtures by weight and then pour 100 cc. into the graduate. The percentage of settling can then be readily determined at any time by simply reading the number of cc.'s of clear water that show up on top of the mixture.

"As to the relative efficiency of a material for this purpose there is no set standard and it is a very difficult matter at this time to set a standard of mud efficiency to cover universal requirements of rotary mud. However, I would suggest that so far as suspension qualities alone are concerned the efficiency standard be set at what the individual would think practical in a certain length of time; in other words, one might say that 100 per cent efficiency in suspension of a drilling fluid would be 100 per cent suspension in a certain period of time, 24 hours being a good unit of time for a comparative basis."

FINDING THEM BY SOUND

Could you give me any information regarding locating oil pools by soundings or sound and echo method, giving depth of the pool and also where to drill for oil, etc.?—J. F.

There is no method known at this time for finding an oil pool except by the actual drilling of a hole until it penetrates a formation saturated with oil. There are trustworthy methods of finding structures considered favorable for the accumulation of oil in times past and these methods are generally known as geophysical processes of prospecting. None of them finds the oil itself and it is not pretended that they can do it.

These instruments are highly scientific in their design and require skilled operators to obtain the best results. One of the best known is the torsion balance. The magnetometer is also used extensively. There are other recognized types of instruments but none is based upon the radiation of sound or the echo method.

During the World War the Government of this country spent money and time trying to perfect an instrument that would record sound under water and so far as known to this department they never were successful in doing this in a way that would make the principle applicable for minerals or oil underground.

The subject is involved and would require much time to explain what has been accomplished thus far and the reasons why the sound or echo methods do not seem promising of success. However, you will find an excellent file of data on these various subjects in the University of California in Berkeley.

NO PRACTICAL BENEFIT SEEN

Could you help me in this problem? A well approximately 1,400 feet deep, finished in lime with 8¼-inch casing, has been making about 10 bbls. of oil with a gas-oil ratio of 300. One-inch tubing was run in that well in the hope of increasing the production, but the only result obtained was a decrease in the gas-oil ratio. Do you believe running in a 6⅝-inch swage with one joint of 6⅝-inch anchor attached to the 1-inch tubing would help to increase the production? I am inclined to think that introduction of one joint of large-diameter pipe would cut down the fluid level which exerts back pressure on the pay and that it also would diminish the entrance loss in pressure.—P. P. G.

A canvass of several petroleum engineers, who were asked their opinion as to the benefits, if any, to be derived from the addition of a joint of 6⅝-inch casing below the string of 1-inch tubing in a 1,400-foot well in the Yates Pool, elicited from each of them the assertion that no practical benefit would be gained. It is pointed out that where you have a low gas-oil ratio it is evident that the force moving the oil to the hole and then to the surface comes from hydrostatic pressure rather than gas pressure.

WHY WAS IT CALLED THAT?

WILD GASOLINE

The designation "wild gasoline" was applied frequently to casing-head, or natural, gasoline, in former years because of its extreme volatility or wildness. The term rarely is heard now for the reason that the scientist soon showed how this unruly product could be tamed and turned to important commercial account.

You, therefore, would not materially change conditions if the larger section of pipe were added to the tubing, for the fluid level in the well would not be changed and it would tend to equalize inside and outside the 6⅝-inch casing the same as it will do in the 1-inch tubing.

It is possible that no increase in production was noted when the 1-inch string of tubing was run in this well because the small diameter of the pipe created more friction than would be the case with larger diameter pipe. However, with the decreased gas-oil ratio the tendency of slippage was also reduced, so it seems logical to consider that these two forces balanced one another and the loss of energy due to friction was offset by the smaller amount of slippage.

One engineer thought that adding a string of 6⅝-inch casing to the bottom of the 1-inch tubing would be a dangerous proceeding for it might cause trouble in pulling the string later and certainly would add weight to the top joint of 1-inch tubing.

It was suggested that as much benefit could be expected by the use of a 1-inch to 6⅝-inch swage on the bottom of the 1-inch tubing as would be obtained by adding the joint of 6⅝-inch casing for this swage would tend to direct the flow of gas and fluid into the bottom of the 1-inch tubing. This gradual reduction of cross-sectional area at the bottom of the string of tubing might aid some in directing the flow and at the same time gradually contract or compress the gas and mix it with the oil instead of permitting fluid and gas to enter the 1-inch tubing intermittently.

This theory was not considered practical by most of the engineers consulted for they all stated that they had not found any type of flow device for wells such as you describe giving material benefit. Their range of experience was broad and covered both special designs of flow devices and home-made types.

You say you think that the use of the joint of 6⅝-inch casing on the bottom of the 1-inch string would cut down the fluid level which exerts back pressure on the pay, and would also diminish the entrance loss in pressure.

It would seem that the use of the term "back pressure" in this connection does not well express the conditions encountered in this type of well. If the well has sufficient energy, from whatever source that may be available, to flow the fluid to the surface, it cannot be working under "back pressure" if we consider that term to mean what it implies, pressure sufficient to force the oil back into the source rock from which it is produced.

In other words, it does not seem right to consider any pressure as detrimental to the flowing of the well until it is so great as to retard all flow of fluid to the surface. It is evident that the original pressure back of this oil in this area has been reduced, perhaps not at the source of this pressure, but rather in the effective work it is now able to do on the oil body.

This may be brought about by the water channeling around the oil, by the clogging of passages through the limestone with paraffin or other materials due to change in pressure or other conditions, and lowering of viscosity of the oil by removal of a portion of the entrained gas that formerly was compressed in the oil.

All of these conditions would make it more difficult for the water back of this oil-bearing zone to exert the same amount of energy on the oil, and as the amount of oil that flows naturally to the hole has been diminished the smaller tubing is all that is necessary to deliver it to the surface.

If you still feel that actual trial in the well is justified, it is suggested that you first try the 1-inch to 6⅝-inch swage nipple only, and if this gives any benefit you next try a short nipple 2 or 3 feet long added to the swage nipple, and increase this length of casing below the swage nipple gradually if improvement is noted by the first tests.

DISTANCE BETWEEN GATES

What rule, if any, is followed in the installation of gate valves on a main natural gas pipe line with regard to the distance between them? I would like the same information about relief valves and pressure gauge taps.—F. E. T.

The best practice in the construction of pipe lines for gas seems to be to install a gate every 4 or 5 miles on a main line. This is the procedure recommended by Dr. Lester Clyde Lichty, associate professor of mechanical engineering in the University of Oklahoma, an authority on natural gas transmission problems. He points out also that a relief valve and a pressure gauge tap should be installed on each side of a main line gate. This construction divides the line into sections, and in case of a break it is possible to shut off a short section of the line and exhaust the gas through the relief valves without draining the entire line and discontinuing service on sections of the line not affected by the break. With the gauge taps it is possible for the man overseeing the repairs to observe the pressure being maintained on either side of the break.

"Can You Hear Me, Sam?"

"How about those Walking Beams for Jones number 4 and 7? . . . Yeh, steel. They gotta be strong . . . Sure, Parkersburg . . . that's right, . . . the kind with oil-less rocker saddles . . . Okey . . . Yeah, Steel "A" Frame Sampson Posts . . . We want that Boomer Type Pitman, too . . . Wednesday, you say? . . right."

This engineered steel equipment will make a big hit with Sam. He will find that the new Parkersburg oil-less Walking Beam with "Center-Rocker" principle gives a longer, straighter stroke and eliminates all side sway and weaving. It's a real businesslike Beam for better operation—drilling or pumping.

The "HB" Boomer lever Pitman, like other Parkersburg all-steel equipment, is built for lifetime service. A simple boomer lever lifts the bearing cap wide open. Off and on the wrist pin in 39 seconds!—"Saves time and fingers." The patented, self-aligning, self-lubricating bearing of this Pitman means an end to wrist pin troubles.

You'll want this advanced equipment on *your* rigs, too. Any Parkersburg representative will be glad to demonstrate. Call him today.

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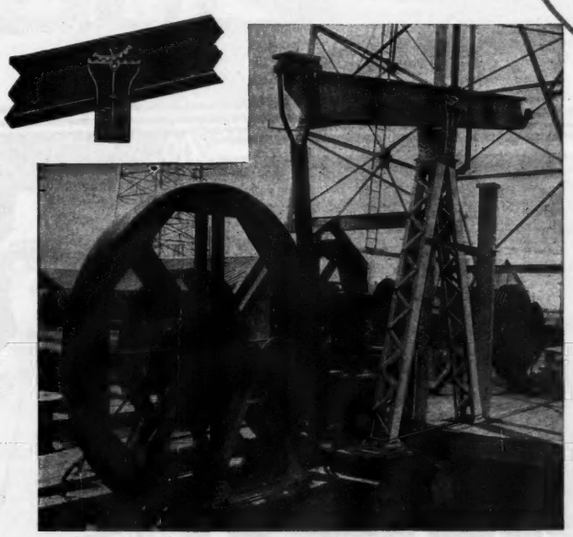

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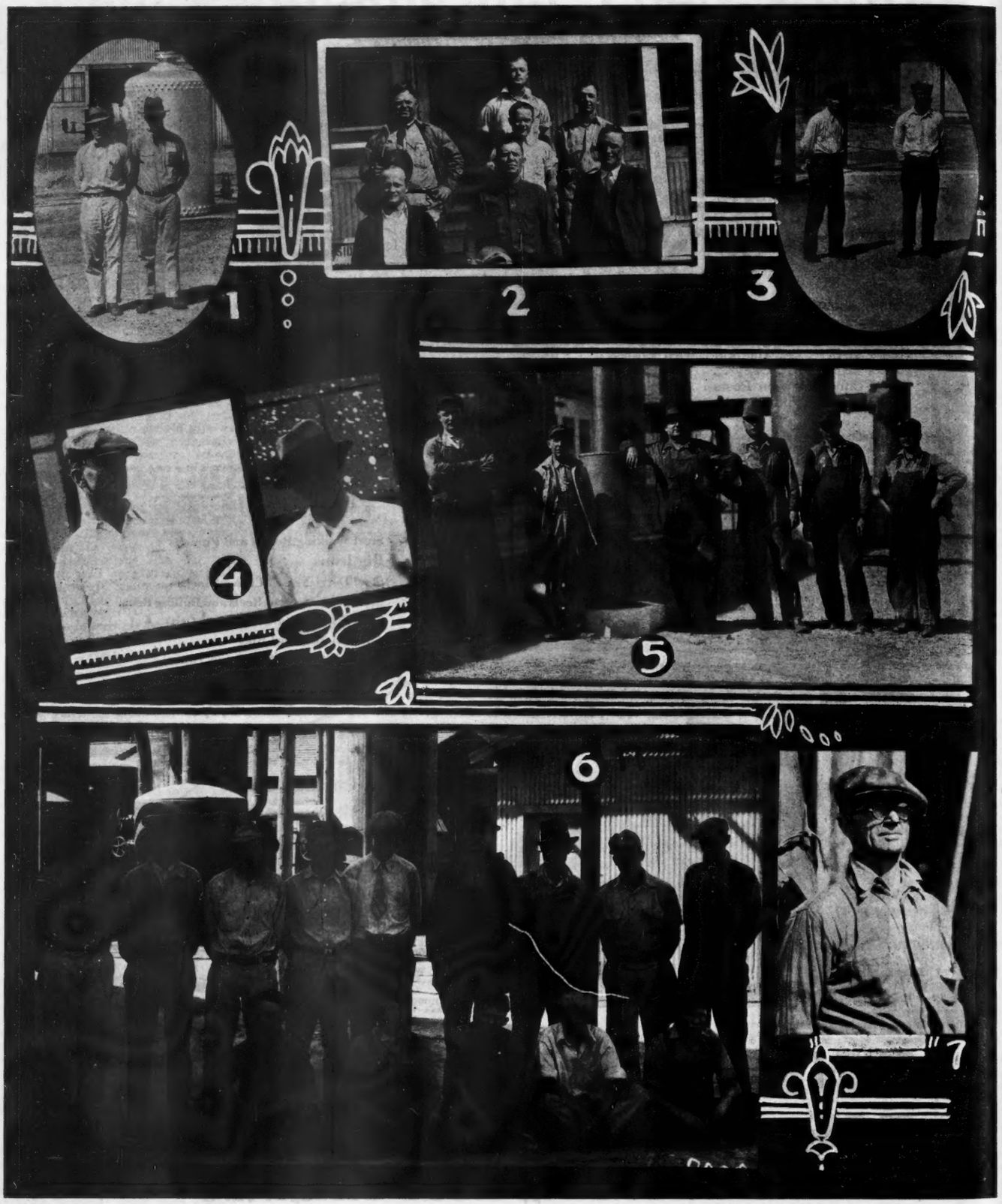
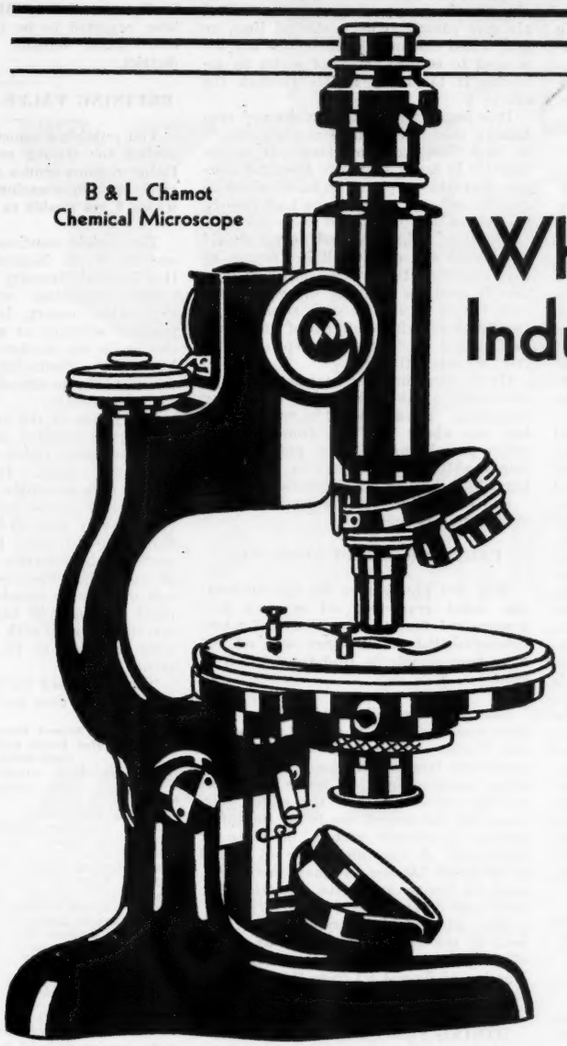
131-A

Snapped at Work in Different Oil Fields



(1) W. W. Ford, superintendent, and R. L. Self, engineer, Independent Oil & Gas Co., Wewoka, Okla. (2) Warehouse crew, Gulf Production Co., McElroy Field, Crane County, Texas.; back row: R. D. Rhinehart; middle row, left to right: J. D. Bonner, J. George, and B. E. McDonald; front row, left to right: R. H. Grupe, J. L. Hutchinson, and H. D. Schmalhurst, manager. (3) James Leonard, engineer, and George Mahan, engineer, Independent Oil & Gas Co., Wewoka, Okla. (4) D. W. McCormick, engineer, and R. R. Browning, gauger, Atlantic Pipe Line Co. (5) Left to right: O. P. White, engineer; A. Washichek, blacksmith; Roy Pipkin, yard man; Henry McChesney, yard man; C. R. Fulton, oiler, and J. B. Allen, welder, Prairie Pipe Line Co., Shawnee, Okla. (6) Front row, left to right: H. F. McLain, boilerman; Frank Robinson, stillman; T. R. Mills, assistant engineer, The Cooper Bessemer Corp.; Virgil McEacheron, oiler, and H. N. Dixon, oiler; back row: J. L. Johnston, foreman; Roy Balkum, extra man; Bryant Barnett, water tender; Frank Eichler, repairman; G. H. Steens, supervisor; B. E. Van Pelt, yard man; W. H. Cheatham, oiler; Roy Castleman, engineer, C. & G. Cooper Co.; and F. H. Bird, oiler, Coltexo Corp. (7) B. A. Healey, driller, Ector County, Texas.



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Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

PARKER CRACKING PROCESS

Can you give me some details concerning the Parker cracking process, or refer me to some published description of this process, which I understand was in operation at several places in Oklahoma about 1917? I want special information as to operating conditions, the commercial capacity, and yields obtained if it is possible for you to give this information. —T. M. R.

The Parker cracking process, one of the early vapor phase methods, was described in The Oil and Gas Journal, November 8, 1917, page 38, by H. G. James. The process is based on United States Patent, Process for Refining Oils, No. 1,226,990. A short description may be found in "Motor Fuels," by Leslie, page 354.

The original Parker unit was built at Pemeta, Okla., east of Cushing, and consisted of a furnace 50 feet long containing six coils of heavy 2-inch pipe, 300 feet to the coil; two drums, 2'x12', fitted with helical steel baffles for the purpose of giving a centrifugal motion to the vapors; expansion tanks; cooling box; separator tanks and condenser boxes. Superheated steam was introduced with the oil and it was claimed as the novel feature of the process that a selective separation was obtained through the movement of the vapor in the reaction chamber with the helical baffle where the heavier portions of the vapor were thrown toward the periphery of the chamber.

The operating conditions involved the passage of the charge, 42 gravity distillate, through the tubes at the rate of 120 feet a second. From the main drums the fluid passed to the expansion cylinder or chamber, which had a capacity of 15 bbls. The vapor was formed under a temperature of 1,500° F. and a pressure of 60 pounds. The vapors then passed to the spray cooler, where a gravity cut was made. Next to the separator, where provision was made for reheating. The next step was to take the product from the condenser to a rerun still.

The raw product was a 42 gravity synthetic crude from which 25 per cent gasoline was obtained. The heavy ends were rerun through the cracking unit and by repeated runs it was claimed a final yield of 83 per cent motor fuel could be obtained. The final product was of low gravity, 50° A.P.I., and an endpoint of 410° F. It was yellowish in color and difficult to treat.

Several Parker plants were built in Oklahoma, mostly in the Cushing district, that varied from 400 to 800 bbls. a day capacity. So far as we are informed, none of these is now in operation.

THERMAL EXPANSION HEAVY PRODUCTS

Is there any table published for correcting the volume of heavy oils and asphalts at high temperatures; say from 250° to 450° F.?—A. N.

A recent publication of the Bureau of Standards, Miscellaneous Publication No. 97, Thermal Properties of Petroleum Products, November 9, 1929, contains a table covering the thermal expansion of petroleum asphalts and fluxes at temperatures ranging from 0° to 500° F. The development of the table, as explained by the bureau, follows:

The results of measurements of thermal expansion made in 1912-1915 on 87 petroleum oils ranging in density from 0.62 to 0.96 (16° to 97° A.P.I.) are recorded in Bureau of Standards' Technologic Paper No. 77, Density and Thermal Expansion of American Petroleum Oils, by Bearce and Peffer. These measurements form the basis for the extensive tables given in Circular 154, National Standard Petroleum Oil Tables, also the abridged tables given in the supplement to Circular 154, Abridged Volume Correction Table for Petroleum Oils. The investigations of 1912-1915 did not include petroleum asphalts and fluxes.

This table is designated Table 1. The values of V_{60}/V given represent volumes at 60° F. occupied by a unit volume at indicated temperatures, t° F. For example, one gallon of petroleum asphalt measured at 350° F. will have a volume of 0.9031 gallon at 60° F. The data were calculated from the equation: $V_t = V_{60}\,[1 + A\,(t - 60) + B\,(t - 60)^2]$ using $A = 0.000341$ and $B = 0.0000001$, which is equivalent to the following:

Temperature range (°F.)	Mean coefficient of expansion
60 to 150	0 00035
60 to 250	0 00036
60 to 350	0 00037
60 to 450	0.00038

Products containing wax, gas bubbles, or nonbituminous materials have expansions which differ from those given in proportion to the quantity of such impurities.

DEHYDRATING TRANSFORMER OIL

Will you kindly discuss for us the most efficient methods for removing the last traces of moisture from transformer and switch oil? Kindly indicate the names and addresses of manufacturers of equipment which can efficiently remove the last traces of moisture?—F. J. M.

The moisture that may be found in a transformer oil is seldom a residue of the refining treatment but is adsorbed water from the atmosphere or the result of contamination from the container. Lubricating oil will, if not properly protected, take up moisture to the extent of from a trace to about 1 per cent. This quantity of water may be indicated by a slight cloudiness of the oil. When the quantity of water approaches 1 per cent there is a tendency for the water to separate on standing, but quantities under 0.7 per cent will remain in suspension.

The treatment for the preparation of a dry oil is usually some form of filtering. Freshly burned fuller's earth, 60/90 mesh, in a percolating filter may be used. Some refiners use a filter press with filter paper. Frequently heating the oil to about 220° F. is all that is necessary to produce a clear oil. Dry air may be prepared by passing heated air over caustic lime, unslacked lime, or granulated calcium chloride; this dry air is used to remove traces of water by allowing it to slowly bubble through the oil.

It is important that all tanks and containers used for transformer oil should be kept free from moisture. It is the practice in many plants to have the storage tanks in a special building which is maintained at a temperature high enough to remove the chance of moisture contamination. The cans and drums should be cleaned and dried well in advance of requirements. If any kind of water solution is used for cleaning the containers, they should be washed with gasoline and finally blown with a stream of dried air; then placed in storage and kept at about 200° F. until filled.

Great care must be exercised for the protection of the oil during the filling operation. The oil should be run in quite hot, say about 200° F., from a filter, either percolating or press, and the container well sealed to prevent air entering while the hot oil is contracting.

See our advertisers' index for list of manufacturers, etc.

USES FOR GRAPE-SEED OIL

Will you kindly give me full information what grape-seed oil is used for? Understand that there are several establishments that manufacture such oil but have been unable to find for what it is used.—J. T.

The grape-seed oil industry appears to have been developed in central and southern France where it is reported comparatively large quantities of the oil are being manufactured. It seems that some of this oil is finished for edible purposes but the largest use is for the lubricating of aircraft motors in place of castor oil. A fine lubricating oil is said to be made for use in small machinery, such as timing apparatus, electrical devices and other delicate machinery.

The oil may be extracted from the seed by the solvent method or by means of presses similar to those for the extraction of linseed oil from flax seed and cotton seed oil from cotton seed.

MINING FOR POTASH AND USE

Can you give me any information as to how potash fertilizer is made ready for the market in Germany? By what process is it brought to the surface? Is it used as it comes from the ground, or are some things added or salt taken out before it can be used for fertilizer.—H. F.

The deposits of potash in Germany, at Stassfurt, have been worked for common salt for over seven centuries. The potassium salts overlay a large body of salt and it was this deposit that was first drilled into and the salt brought to the surface in solution. The first mine shaft was sunk in 1843 to the solid deposits containing potash. These deposits are very thick, containing over 30 minerals. The different potassium minerals are laid down in a series of strata, each of which consists of a predominating potassium salt and differ in general appearance. It is therefore not difficult to mine the mineral as needed.

These minerals are mined in the solid form, just as so much rock or stone, and the extraction and purification of the special salt is based on washing the crushed material with water and then concentrating the solution to the point of crystallization.

Oil prospecting has been closely associated with the search for potash deposits and some deposits indicating minerals of commercial importance have been located in Texas and New Mexico. These have been reported to be the most promising ever found outside of the Stassfurt district.

REFINING VALUE OF CRUDE OIL

You published sometime ago a form or outline for stating realization when refining various crudes and I would appreciate this information or the reference, which I am unable to locate?—F. D. A.

The article mentioned seems to be the one by W. T. Ziegenhain, The Oil and Gas Journal, January 9, 1930, Page 121.

The suggestion was made that a realization report is advisable on a monthly schedule or whenever there is a change in the market price of crude oil. Part of the discussion together with the forms are reproduced. See the article for other details.

The yields of the various products for each crude remains sufficiently constant that the same yields may be used from month to month. It becomes an easy matter then to supply a set of refined oil prices and arrive at an answer in a routine way and with a little guidance from time to time, the report may be made out by someone unfamiliar with all of its parts. The yields may be the result of actually running the crude in the plant or it may be based on a laboratory distillation test with the theoretical results modified to fit those expected in actual practice.

The form used for the realization may contain such data as shown here.

Margin Per Barrel Running Seminole Crude in Tulsa Plant and Using Present Spot Sales Prices

(Plant balanced to skim and crack 5,000 bbls. crude daily.)

Yield,	product—	Price	Revenue per bbl.
72.0%	Gasoline (U.S.M.)	$0.06½	$1.87
5.0%	Kerosene	.04¼	.09
8.0%	Distillate	.03¾	.13
6.0%	Coke	2.00 ton	.02
9.0%	Loss and gas		
100.0%	Gross revenue per barrel		$2.21
	Posted crude price	$1.60	
	Pipe line charge	.15	
	Manufacturing cost	.28	
	Maintenance	.04	
	Plant expense		$2.07
	Plant margin		$0.14

In a similar manner, the plant margin may be determined for other crudes and the results tabulated in a form similar to the following one:

Summary of Plant Margins Running Following Crudes in Tulsa, Okla., Refinery Basis Present Spot Market Prices

Crude—	Grav.	Cost Del. charge	Del. at plant	Mfg. exp.	Marg. per bbl.
Seminole, Ok.	39-40	$.15	$1.75	$.32	$.14
Cushing, Ok.	37-38	.12	1.62	.30	.08
Winkler, Tex.	29-30	.52	1.42	.38	.02
Ok. City, Ok.	38-39	.25	1.80	.28	.14

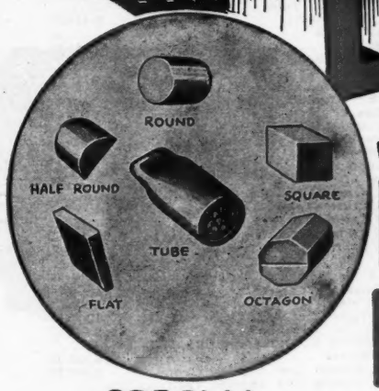
The above figures are not intended as representative of actual conditions but used simply as an example of the manner in which the data may be tabulated in a simple form.

CORRESPONDENCE COURSES IN REFINERY ENGINEERING

Could you give me the name of one or two colleges which have extension or correspondence courses in oil refining engineering and design?—J. J. D.

The colleges nearest to you that are prepared to offer correspondence courses in chemistry, physics, and engineering, with special reference to oil refining are: Columbia University, New York City; Massachusetts Institute of Technology, Cambridge, Mass.; Harvard University, Cambridge, Mass.

CUT OPERATING COSTS



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Division of
GLOBE OIL TOOLS CO.
Torrance, Calif.

Oklahoma Gross Production for First Quarter, 1930

Gross production report for first quarter of 1930, showing all production of $5,000 and upward, and all royalty of $2,000 and more. Names with asterisk opposite them indicate royalty owners, those without are producers. Gas production is given in thousands of cubic feet.

A

Name and address—	Barrels	M. feet	Amount
Amerada Petroleum Corp., Tulsa	801,905.88	.....	$1,157,662.15
Amerada Petroleum Corp., Tulsa	.....	1,101,126	30,527.86
Amerada Petroleum Corp.,* Tulsa	.....	.....	4,208.28
Accumulative Royalties Corp.,* Tulsa	30,272.17	.....	42,544.00
Accumulative Royalties Corp.,* Tulsa	.....	Gas	275.82
Alco Royalties Corp.,* Tulsa	.....	345,765	28,896.33
Atlantic Oil Producing Co.,* Philadelphia, Pa.	.....	.....	3,154.20
Atlantic Oil Producing Co.,* Philadelphia, Pa.	10,696.01	.....	14,940.73
Atlantic Oil Producing Co.,* Philadelphia, Pa.	.....	24,702	1,968.30
Atlantic Oil Producing Co., Philadelphia, Pa.	238,167.88	.....	317,009.20
Atlantic Oil Producing Co., Philadelphia, Pa.	.....	248,109	9,984.28
Anderson-Prichard Co., Oklahoma City	31,735.96	.....	46,436.36
Anderson-Prichard Co., Oklahoma City	.....	Gas	1,716.25
Acme Royalty Co.,* Ardmore	7,532.88	Gas	11,235.73
Adams Royalty Co.,* Chicago, Ill.	43,402.81	.....	65,035.94
Adams Royalty Co., Chicago, Ill.	.....	Gas	6,250.16
Argo Oil Co., Denver, Colo.	25,179.02	.....	38,848.68
Argo Oil Co., Denver, Colo.	.....	1,458	87.50
Alma Petroleum Co., Oklahoma City	973.95	.....	1,206.92
Alma Petroleum Co., Oklahoma City	.....	226,517	18,860.65
Alma Royalties Corp.,* New York, N. Y.	.....	.....	13,753.76
American Indian Royalty Co.,* St. Louis, Mo.	.....	.....	6,816.99
American Drilling Co., Lindsborg, Kans.	.....	53,539	5,353.91
American Oil Royalties Corp.,* Tulsa	.....	.....	2,459.34
American Royalty Petroleum Co.,* Tulsa	1,892.84	.....	3,367.18
American Royalty Petroleum Co., Tulsa	.....	Gas	212.51
American Refining Properties, Wichita Falls, Tex.	3,724.66	.....	5,437.63
American Maracaibo Co., New York, N. Y.	11,223.80	.....	20,129.94
American Oil & Refining Co., Oklahoma City	.....	.....	15,845.33
American Oil Development, Pittsburgh, Pa.	4,158.45	Gas	5,450.29
Anderson, Nellie H.; Charles and Wilmer,* Los Angeles, Calif.	5,366.67	.....	4,173.70
Anderson, A. C.,* Oklahoma City	.....	.....	4,860.18
Andrews, H. M. and Ethel,* Newkirk	.....	.....	4,977.19
Apple, S. A.,* Oklahoma City	.....	.....	14,440.06
Anthis, James M.,* Muskogee	.....	.....	2,467.95
Atkinson, William H.,* Oklahoma City	.....	.....	7,472.08
Associated Petroleum Royalties Corp.,* Tulsa	.....	.....	2,178.00
Amster, N. L., Ardmore	5,170.70	Gas	6,694.14
Adamson, Peter, Jr., Tulsa	.....	.....	8,457.72
Anthony, S. W., Mounds	.....	.....	9,377.30
Abraham, Joe, estate,* Bristow	.....	.....	6,505.33
Arthur Oil Co., Sistersville, W. Va.	8,378.90	35.379	14,924.77

B

Barnsdall Oil Co., Tulsa	634,153.14	.....	887,093.10
Barnsdall Oil Co., Tulsa	761,650.49	.....	1,046,235.48
Barnsdall Oil Co., Tulsa	.....	488,131	26,661.81
Barnsdall Oil Co.,* Tulsa	1,716.63	.....	1,968.62
Blackwell Oil & Gas, Cushing	Oil	.....	395,836.34
Blackwell Oil & Gas, Cushing (No quantity given).	.....	Gas	23,762.90
Benedum-Trees Oil Co., Pittsburgh, Pa.	50,896.72	.....	68,938.24
Bu-Vi-Bar Petroleum Corp., Tulsa	23,677.99	.....	38,236.44
Bay State Oil & Gas, Kansas City, Mo.	8,569.47	.....	11,360.99
Bay State Oil & Gas, Kansas City, Mo.	1,457.68	.....	2,105.74
Bay State Oil & Gas, Kansas City, Mo.	1,839.83	.....	2,611.31
Burke-Greis Oil Co., Tulsa	187,858.79	.....	263,659.37
Burke-Greis Oil Co., Tulsa	.....	Gas	46,405.63
Burke-Greis Oil Co.,* Tulsa	.....	.....	8,889.02
Brandenburg Bros., Norman	Oil	.....	40,319.84
Brandenburg Bros., Norman	.....	Gas	523.39
Bisett-Lytle & Gray, Tulsa	5,315.41	.....	6,068.99
Bisett-Lytle & Gray, Tulsa	8,202.62	.....	9,980.56
Bart Royalty Co.,* Bartlesville	63,713.42	.....	11,980.68
Bart Royalty Co.,* Bartlesville	.....	Gas	238.08
Berry Petroleum Co., Tulsa	8,327.27	.....	10,822.29
Berry Petroleum Co., Tulsa	.....	4,701	848.63
Bole, George S., Tulsa	8,741.98	.....	11,991.90
Bole, George S., Tulsa	.....	15,746	625.78
Baker & Strawn, Tulsa	7,295.68	.....	9,615.78
Baker & Strawn, Tulsa	.....	19,394	387.88
Bryan Petroleum Co., Tulsa	12,783.87	.....	19,527.39
Bryan Petroleum Co., Tulsa	.....	54,631	6,080.66
British-American Oil Prod. Co., Tulsa	35,287.55	.....	46,370.48
Beico Royalties, Inc.,* New York, N. Y.	.....	.....	29,694.48
Baldwin and Sutton, Walters	13,282.51	.....	17,229.28
Braden & Moore, Tulsa	5,210.07	.....	6,872.24
Bridwell Oil Co., Wichita Falls, Tex.	5,291.74	.....	6,524.34
Babcock Bros., Denison, Tex.	9,407.42	.....	15,253.50
Bambarger, C. C.,* Paden	.....	.....	2,984.34
Banta, W. M.,* Tecumseh	.....	.....	2,718.24
Bradfield, George M.,* Shawnee	.....	.....	3,761.79
Baker, A. O.,* Shawnee	.....	.....	13,355.72
Burroughs, O. W.,* Shawnee	.....	.....	3,482.39
Bullock, V. M.,* Shawnee	.....	.....	6,715.36
Bruner, Polly,* Seminole	.....	.....	3,107.34
Bilbo, George W., Madill	.....	.....	18,066.67
Billington, C. B.,* Shawnee	.....	.....	21,948.11
Boggs, Charles W., Los Angeles, Calif.	5,064.68	4,393	5,453.28
Bridgeford, J. R., & Co. Syndicate A-51, New York, N. Y.	.....	.....	4,124.00
Berry, G. M.,* Pawnee	.....	.....	6,430.21
Brett, George H.,* Ponca City	.....	.....	2,157.86
Breene, Mable Gray, Tulsa	4,307.32	.....	5,465.82
Boring, O. M. and Effie, Hobart	.....	.....	22,765.93
Braymer, A. L.,* Tulsa	2,099.50	.....	3,251.06
Bradley, E. A., Dec. by Anna Bradley, Tulsa	4,043.73	.....	5,117.31
Borroto, Catherine W.,* New York, N. Y.	.....	.....	10,385.84
Beverlin, F. A.,* Wichita, Kans.	.....	.....	7,420.16
Barrett, Mrs. Mary F.,* Austin, Tex.	1,636.40	.....	2,098.10
Ball Oil & Gas Co., Tulsa	3,678.68	.....	5,302.44
Burlingame, C. E., Bartlesville	4,357.59	.....	6,348.44
Boettcher Oil & Gas, Ada	.....	.....	5,667.83
Brunton, Fannie,* Oklahoma City	.....	.....	5,702.41
Beck, C. V., Nocona, Tex.	48,387.47	.....	60,769.75
Browning, C. W.,* Oklahoma City	.....	.....	6,998.58
Berryhill, Earle,* Sapulpa	.....	.....	2,918.05
Brame, I. L.,* Los Angeles, Calif.	.....	.....	5,021.90
Boring, E. M., Oklahoma City	11,738.04	.....	15,016.63
Boring, E. M., Oklahoma City	.....	2,136	106.81
Blankenship, G. H.,* Tulsa	.....	.....	2,135.74
Burk, George T.,* Shawnee	.....	.....	2,624.08
Buck, J. F.,* Shawnee	.....	.....	2,960.79
Button, Robert,* Oklahoma City	.....	.....	3,636.82
Button, Alex,* Oklahoma City	.....	.....	6,708.82
Button, George,* Oklahoma City	.....	.....	4,025.31
Bowlegs, Lulu and Bob,* Seminole	.....	.....	3,129.78
Brown, J. J.,* Wichita, Kans.	.....	.....	4,123.91
Buttram, Frank,* Oklahoma City	Oil	.....	11,234.48
Buttram, Frank,* Oklahoma City	.....	Gas	434.43
Beard, J. G., and S. I. Kolb, Duncan	4,739.52	6.884	7,279.19
Bodine, Louise,* Miami, Fla.	.....	.....	8,003.44
Bodine, Sonora and John D.,* Oklahoma City	.....	.....	2,634.95
Breen, Frank M., trustee, Tulsa	.....	.....	6,538.00
Berry, James E., Stillwater	.....	.....	5,152.35
Barbara Oil Co., Chicago, Ill.	5,765.67	.....	12,932.07

C

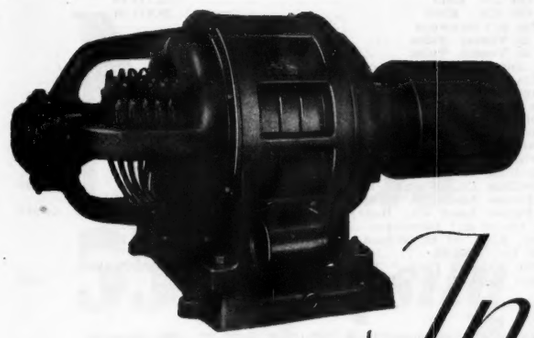
Continental Oil Co., Ponca City	442,743.41	2,173,910	777,233.90
Carter Oil Co., Tulsa	2,637,173.73	.....	3,379,830.26
Carter Oil Co., Tulsa	.....	Gas	247,509.66
Carter Oil Co., (suspense), Tulsa	.....	.....	56,929.33
Cromwell-Franklin Co., Oklahoma City	149,825.46	.....	208,635.11
Colonial Royalties Co.,* Tulsa	.....	.....	4,574.16
Cudahy Oil Co., Cleveland, Ohio	10,794.56	.....	12,333.53
Cosden, J. S., Inc., Fort Worth, Tex.	197,395.09	.....	301,539.56
Cosden, J. S., Inc., Fort Worth, Tex.	.....	Gas	9,940.76
Champlin Refining Co., Enid	146,588.00	.....	223,142.57
Champlin Refining Co., Enid	.....	268,831	18,463.02
Comar Oil Co., St. Louis, Mo.	525,272.31	.....	818,299.25
Comar Oil Co., St. Louis, Mo.	.....	484,644	24,647.74
Creo Oil Co., Tulsa	8,369.62	.....	10,287.79
Coline Oil Co., Oklahoma City	38,365.76	Gas	30,773.65
Coline Oil Co., Oklahoma City	718,317.24	.....	949,232.87
Coline Oil Co., Oklahoma City	.....	1,633,077	24,816.46
Cities Service Co., Bartlesville	.....	1,054,336	86,375.92
Crosbie-Sturm & Davis,* Tulsa	1,049.02	.....	1,470.78
Crosbie-Sturm-Davis & Sloan, Tulsa	1,436.66	.....	1,972.32
Crosbie, J. E., Inc., Tulsa	31,114.07	Gas	44,578.89
Consolidated Gas Utilities Co., Oklahoma City	.....	637,862	46,903.67
Consolidated Pipe Line Co., (suspense), Sand Springs	.....	.....	3,800.17
Central Oil Royalties, Inc.,* New York City	.....	.....	2,308.14
Central Commercial Oil Co.,* Tulsa	2,593.65	.....	3,727.82
Central Commercial Oil Co., Tulsa	.....	16,331	1,323.91
Central Petroleum Co., Tulsa	5,410.60	.....	6,912.68
Central Royalty Co.,* Tulsa	.....	.....	2,302.35
Caddo Oil Co., Tulsa	17,255.02	Gas	21,688.55
Chesnut, Harold G.,* Oklahoma City	.....	.....	7,483.20
Chesnut, O. G.,* Oklahoma City	.....	.....	12,084.10
Cox, Edwin B., and Hamon, Jake L.,* Ardmore	.....	.....	13,516.21
Cox, Anna Elizabeth,* Ardmore	.....	.....	3,137.39
Clark & Cowden, Duncan	2,790.64	Gas	9,315.64
Crist, D. F.,* Oklahoma City	.....	.....	4,606.30
Connelly, G. W.,* Caney, Kans.	.....	.....	6,967.42
Cheatham, C. H.,* Shawnee	.....	.....	4,606.30
Cruce, M. K.,* Oklahoma City	.....	.....	2,227.59
Catlett, J. E., Tulsa	.....	.....	5,847.75
Cornell, Herman D., trustee, Los Angeles, Calif.	3,388.36	.....	6,219.25
Cornell, Herman D., trustee,* Los Angeles, Calif.	1,874.35	.....	3,218.29
Chisum, Jr., W. C.,* Oklahoma City	.....	.....	3,081.81
Chisum, Sr., W. C.,* Oklahoma City	.....	.....	3,069.26
Capps, J. W., and B. H. Young, trustee, Haskell, Okla.	4,101.93	.....	5,551.86
Canadian Royalty Oil Co.,* London, Ontario, Canada	.....	.....	3,978.02
Clover, Jack M.,* Tulsa	1,936.73	.....	2,358.10
Clover, Goldie R.,* Tulsa	1,936.73	.....	2,358.10
Clover, Harold D.,* Tulsa	1,936.73	.....	2,358.10
Commonwealth Trust Co., Okmulgee	4,544.57	.....	5,354.32
Crockett Hayes, Elizabeth R., Oklahoma City	.....	.....	84,298.85
Critchlow, W. S., Ardmore	6,633.93	.....	9,347.66
Connell, Herman D., trustee, Los Angeles, Calif.	3,249.76	.....	4,684.95
Connell, Herman D., trustee, Los Angeles, Calif.	.....	Gas	761.37
Connell, Herman D., trustee, Los Angeles, Calif.	.....	.....	3,171.93
Campbell, Howard D.,* Raymondville, Tex.	.....	.....	6,296.07
Carpenter, Wm. G.,* Lees Summit, Mo.	.....	.....	5,749.94
Casperson, Joe, Tulsa	3,810.89	.....	6,161.34
Carpenter, Hamilton C.,* Elizabeth, N. J.	.....	.....	5,562.54
Caudill, Samuel J.,* Tulsa	3,003.47	.....	4,540.06
Chieftan Royalties Corp.,* Tulsa	1,409.45	.....	2,104.90
Conservation Oil Co., Tulsa	6,775.93	.....	8,798.19
Cremer, Jessie,* Tecumseh	.....	.....	2,091.26
Crane estate, T. R.,* Mannford	12,976.35	.....	18,925.39
Canary, S. C., Tulsa	5,892.77	.....	7,100.09
Cochran, A. D.,* Okmulgee	7,420.42	.....	10,276.82
Cochran, A. D., Okmulgee	.....	Gas	373.43
Cline, Wm. S.,* Newkirk	.....	.....	2,361.22
Cline, W. S., trustee,* Newkirk	.....	.....	2,305.86
Crews Estate Oil & Gas, End.	.....	6,837	409.65
Crews Estate Oil & Gas	7,324.31	.....	11,884.74
Collins, June H.,* Tulsa	.....	.....	8,325.34
Cedar Gas Co., Bartlesville	.....	78.678	5,507.46
Cherry, C. C.,* Maud	.....	.....	2,661.77
Cortez Oil Co.,* Tulsa	4,021.69	.....	5,542.47
Clubb, Laura A.,* Tulsa	.....	.....	6,651.15
Clubb, I. M.,* Kaw City	4,502.10	.....	6,637.26
Cary, John I., Okmulgee	.....	.....	11,143.45
Campbell, J. D.,* Seminole	.....	.....	21,429.67
Clark, Jr., Dillard H.,* Ponca City	.....	.....	2,923.70

D

Delmar Oil Co., Bartlesville	13,684.86	.....	17,820.99
Delmar Oil Co., Bartlesville	.....	C.H.17,764	1,383.14
Delmar Oil Co., Bartlesville	.....	Gas	179.95
Delaware Consolidated Oil Co., Tulsa	45,462.25	.....	39,649.32
Devonian Oil Co., Tulsa	174,038.48	.....	266,166.37
Devonian Oil Co., Tulsa	.....	Gas	26,836.11
Denver Prod. & Refg. Co.,* Okmulgee	20,364.05	.....	28,479.13
Denver Prod. & Refg. Co., Okmulgee	29,803.67	.....	40,562.29
Delk Investment Corp.,* St. Louis, Mo.	1,814.30	1,264	2,814.42
Deep Rock Oil & Refg. Co., Tulsa	19,124.33	C.H.163,374	28,642.25
Deep Rock Oil & Refg. Co., Tulsa	262,795.15	C.H.235,760 Gas 462,287	418,453.33
Duncan Wichita Falls Pipe Line Co., Wichita Falls, Tex.	12,992.97	2,796	18,581.71
Doss Oil Royalty Co.,* Oklahoma City	12,053.22	.....	14,776.94
Doss Oil Royalty Co.,* Oklahoma City	.....	Gas	357.87
Darby Petroleum Corp., Tulsa	352,435.35	.....	483,504.00
Darby Petroleum Corp., Tulsa	.....	Gas	12,594.08
Darby-Lynde Co., Tulsa	64,074.74	.....	85,982.02
Darby-Lynde Co., Tulsa	.....	120,269	6,317.34
Dickson Oil Royalty Co., Tulsa	.....	.....	3,136.85
Dickson, J. H.,* Tulsa	.....	.....	11,920.99
Dixon, Dr. W. E.,* Santa Ana, Calif.	.....	.....	8,660.04
Dixon, J. D.,* Duncan	.....	.....	3,765.82
Dixie Oil Co., Inc., Tulsa	310,351.72	.....	469,577.38
Dixie Oil Co., Inc., Tulsa	.....	244,141	7,299.03
Dixie Oil Co., Inc., Tulsa	100,192.76	28,805	137,108.44
Diliard estate, J. H.,* Ardmore	.....	.....	4,725.29
Denney, C. E.,* Alma	.....	.....	3,051.59
Dawes, Wm. E.,* Yale	.....	.....	2,245.58
Doneghy, J. C.,* Tulsa	16,881.07	.....	30,343.83
Dilley, W. Y., trustee,* Waurika	3,639.85	.....	2,984.36
Droppleman, John, Wewoka	.....	.....	56,770.79
Davis, B. F.,* Wewoka	.....	.....	13,096.00
Davis, Mildred,* Oklahoma City	.....	.....	3,417.20

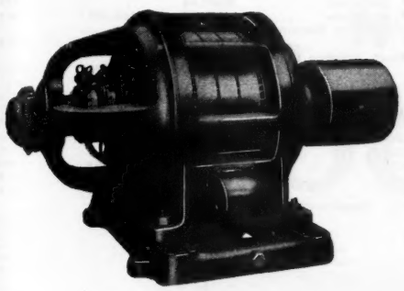
(Continued on Next Page)

1930

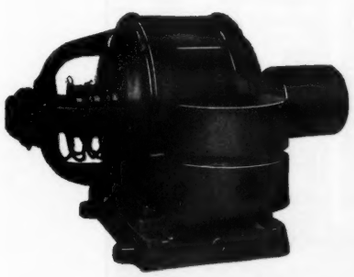


Introducing—

ANOTHER MEMBER OF A DISTINGUISHED MOTOR FAMILY



IN 1913 General Electric developed the first successful, two-speed wound-rotor motor ever applied to oil-well pumping. Seventeen years have been spent in paralleling the progress of the industry—in constant improvement. General Electric's latest contribution is the new 75/35-hp. two-speed motor of 1930.



Here is a remarkably dependable and efficient pumping motor that is also readily adapted to cable-tool drilling. Its operating characteristics are backed by years of experience that have proved its soundness of design. It is a larger motor because it must meet heavier demands from producing wells. It is strong and well balanced from base to nameplate. And, single-handed, it meets every power requirement of a producing well.

1913

Pumping, pulling, cleaning, bailing, swabbing, shaking-up, redrilling, and even deepening—whatever the operation may be—can be done efficiently and cheaply with this G-E two-speed oil-well motor. Ask your nearest G-E office to tell you more about the complete line of electric apparatus that is ready to aid you.

JOIN US IN THE GENERAL ELECTRIC HOUR, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

200-368A

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

Name and address—	Barrels	M. feet	Amount
Decker, G. W.,* Stratford	.....	.....	2,020.61
Dillard, Mrs. V. E.,* Ardmore	.....	.....	7,149.52
Douglass, O. H.,* Okmulgee	.....	.....	6,062.22
Douglass, H. T.,* Shawnee	.....	.....	2,302.56
Douglass, M. S.,* Weleetka	.....	.....	3,739.88
Dunmar Oil Co., Duncan	13,247.96	.....	15,422.62
E			
Empire Oil & Refg. Co., Bartlesville	456,944.99	.....	648,337.79
Empire Oil & Refg. Co., Bartlesville	.....	C.H. 882,164	16,801.59
Empire Oil & Refg. Co., (suspense), Bartlesville	.....	.....	96,106.00
Empire Oil & Refg. Co.,* Bartlesville	18,002.17	.....	27,340.00
Eason, T. T.,* Enid	2,352.07	.....	3,563.71
Eason Oil Co., Enid	132,759.94	.....	190,800.15
Eason Oil Co.* Enid	20,875.94	.....	30,262.76
Ellis, Joe S.,* Shawnee	.....	.....	3,080.66
Elliott & Vensel, Tulsa	5,598.14	.....	6,209.00
Elliott & Vensel, Tulsa	1,511.16	.....	1,902.35
Elliott, Anna May,* Lawrence, Kans.	.....	.....	3,049.89
Equitable Royalty Corp., Oklahoma City	.....	.....	5,437.77
Exchange Trust Co. for accounts	.....	.....	12,780.49
Eastern Royalties Corp.,* New York City	.....	.....	5,161.81
Erickson, Faye M.,* San Diego, Calif.	.....	.....	5,668.84
Elswick, P. C.,* Lamont	.....	.....	3,081.11
Engineers Royalties, Inc.,* New York City	.....	.....	6,086.57
Enterprise Transit Co., Titusville, Pa.	2,596.05	.....	2,898.37
Ellis Drilling Co., Wichita Falls, Tex.	4,795.82	.....	6,601.23
Ellis Drilling Co., Wichita Falls, Tex.	.....	9,039	903.95
Eagle Picher Lead Co., Henryetta	2,217.61	.....	3,026.39
Eagle Picher Lead Co., Henryetta	.....	66,087	3,691.56
Ellison, Grace B.,* Okmulgee	.....	.....	3,358.25
Erlewine, A. J., et al, Wilson	6,223.91	.....	7,384.33
Elm Oil Co., Tulsa	7,655.73	.....	9,392.69
Equitable Royalty Corp.,* Tulsa	Oil	.....	104,674.86
Equitable Royalty Corp.,* Tulsa	.....	Gas	5,709.42
F			
Franklin, Wirt, Petroleum Corp., Ardmore	597,453.70	.....	793,095.32
Franklin, Wirt, Petroleum Corp., Ardmore	.....	Gas	86,856.17
Franklin, Wirt, Petroleum Corp., Ardmore	4,208.69	.....	6,944.34
Franklin, Wirt, Petroleum Corp., Ardmore	.....	Gas	2,114.54
Franklin, Wirt, Petroleum Corp.,* Ardmore	9,503.64	.....	11,379.11
Franklin, Wirt, Petroleum Corp.,* Ardmore	.....	105,096	994.05
Franklin, Wirt, and Mary C. Cates, Liberty National Bank, trustee for, Oklahoma City	1,744.31	319	2,213.39
Franklin, Wirt, Liberty National Bank, trustee for, Oklahoma City	3,519.37	998	4,382.12
Franchot & Co., D. W., Tulsa	27,884.36	.....	36,715.65
Franks, J. S., trustee, Oklahoma City	7,445.44	.....	9,130.73
Foster, James F.,* Anthony, N. M.	.....	.....	3,329.27
Foster Oil Co., Tulsa	5,124.24	.....	7,160.82
Foster Petroleum Corp., Bartlesville	61,013.15	.....	85,796.20
Foster Petroleum Corp., Bartlesville	20,544.76	.....	32,296.11
Foster Petroleum Corp.,* Bartlesville	.....	Gas	6,808.93
Foster & Davis, Inc., Bartlesville	7,480.91	.....	9,446.44
Foster & Davis, Inc., Bartlesville	.....	Gas	305.14
First National Bank & Trust Co., depository for Trosper Park, royalty owner	48,694.41	56,990	70,276.87
Fried, Samuel, estate,* Sulphur	.....	.....	4,696.81
Franks, W. E.,* Seminole	.....	.....	6,437.96
Franks, Rosa,* Seminole	.....	.....	3,036.02
Fannell, K. C.,* Chickasha	.....	.....	7,890.61
Fitzgerald, D. C., Ardmore	4,317.11	.....	5,541.50
Fitzgerald, D. C.,* Ardmore	1,845.62	.....	2,394.81
Fort Ring Oil & Gas Co., Fort Worth, Tex.	4,855.74	.....	6,500.98
Findley, E. G.,* Cleveland	.....	.....	2,580.73
Fortson, Effie M.,* Oklahoma City	.....	.....	13,377.50
Feagin, N. B.,* Tulsa	.....	.....	6,957.87
Flanagan, J. P.,* Tulsa	.....	.....	5,342.67
Fuzzell, Albert P.,* Oklahoma City	.....	.....	8,081.96
Fuzzell, Joe,* Oklahoma City	.....	.....	30,843.52
Farley, Dee,* Oklahoma City	.....	.....	18,013.04
Farley, Ethel,* Oklahoma City	.....	.....	3,072.29
Fourth National Bank,* Wichita, Kans.	.....	.....	2,021.79
Franz, Fritz,* Deer Creek	.....	.....	3,548.09
Fondren, W. W.,* Houston, Tex.	.....	.....	2,098.09
Folk, H. B.,* Sand Springs	1,956.74	.....	2,845.77
Flynn Oil Co.,* Oklahoma City	.....	.....	8,910.08
Federal National Bank of Shawnee	.....	.....	3,027.47
Federal Tax Co.,* Oklahoma City	.....	.....	4,169.60
Fern Oil & Gas Co., Yale	.....	.....	8,027.34
Finance Oil Co., Gowanda, N. Y.	11,074.55	.....	14,059.80
Fleet, Jim, and W. B. Osborn, estate of,* Ada	.....	.....	2,767.78
Fleet, Alice,* Ada	.....	.....	5,318.82
Fleet, Alice, guardian,* Ada	.....	.....	5,506.65
Fleet, D. F. and Jno., and W. B. Osborn,* Ada	.....	.....	5,700.64
Fleet, John J.,* Ada	.....	.....	6,680.32
Fleet, D. F.,* Ada	.....	.....	23,810.91
Fleet, Carl,* Ada	.....	.....	2,109.99
Foster, Willard,* Tulsa	.....	.....	22,326.00
G			
Gypsy Oil Co., Tulsa	2,627,009.31	.....	3,764,500.85
Gypsy Oil Co., Tulsa	137,093.88	.....	187,604.95
Gypsy Oil Co., Tulsa	.....	4,113,404	192,522.46
Gypsy Oil Co., Tulsa	.....	207,314	13,345.81
Gypsy Oil Co.,* Tulsa	1,794.58	.....	2,272.77
Gypsy Oil Co. for Partners, Tulsa	1,261.44	.....	1,755.42
Gypsy Oil Co. for Partners, Tulsa	8,360.42	.....	10,638.34
Gypsy Oil Co. for Partners, Tulsa	.....	11,181	969.91
Gypsy Oil Co. for Partners, Tulsa	22,896.07	.....	29,571.38
Gypsy Oil Co. for Partners, Tulsa	.....	3,065	180.25
Gypsy Oil Co., (suspense), Tulsa	.....	.....	130,791.33
Gypsy Oil Co., (suspense), Tulsa	.....	.....	133,054.66
Gray Oil Co., Tulsa	7,639.14	.....	12,648.14
Guaranty Trust Co. of New York,* New York City	.....	.....	16,392.95
Glass and Harmon, Nowata	7,561.98	.....	9,713.69
Harmon, C. C.,* Nowata	8,450.39	.....	10,659.96
Glass, J. Wood,* Nowata	4,472.89	.....	5,517.40
Gilcrease Oil Co., Tulsa	35,860.64	.....	39,310.00
Gled Oil Co., Tulsa	5,854.84	.....	7,635.40
Grimes and Gillespie	10,319.56	.....	14,051.96
Grimes & Elliott, Tulsa	1,607.10	.....	1,986.56
Gillespie, F. A., and Sons, Tulsa	14,775.55	.....	14,965.81
Gates Oil Co., Ardmore	9,001.95	.....	10,114.95
Gledden Oil Corp., Tulsa	4,627.34	.....	6,176.02
Goddard Co.,* Ardmore	3,240.94	.....	3,191.69
Goddard Co., Ardmore	10,373.30	.....	10,568.18
Gardner, J. S.,* Lovell	.....	.....	6,538.43
Gardner, J. S., guardian,* Lovell	.....	.....	6,538.43
Gilbreath, J. C.,* Shawnee	.....	.....	3,822.76
Gibson, John J., and Ernest W. McNeill, Toronto, Canada	.....	.....	4,449.60
Giblet, Walter,* Oklahoma City	.....	.....	2,467.60
Giblet, Ida,* Oklahoma City	.....	.....	5,136.00
Goertz, Walter A.,* Newark, N. J.	.....	.....	2,225.88
John B. Grieves, Terlton	.....	.....	9,361.66
Gladden, Clara L.,* Shawnee	.....	.....	3,531.30
Getzendaner, R. W., Waxahachie, Tex.	4,786.60	.....	5,661.40
Gardner Petroleum Co., Tulsa	10,738.54	.....	16,411.21
Gardner, Leona,* Enid	.....	.....	6,538.44

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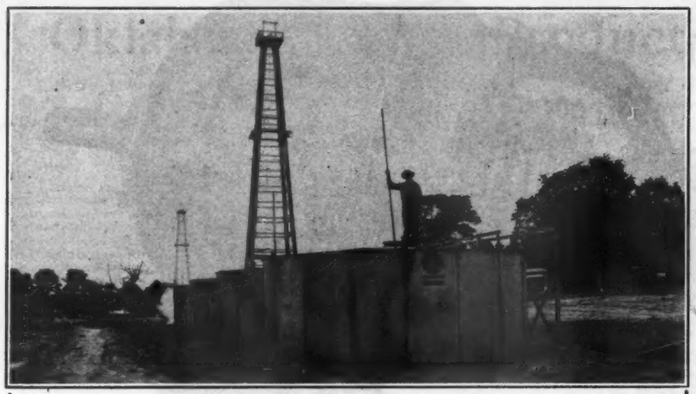


Four 500-Bbl. Maloneys Used by Bullock Oil Co., at Wanette, Okla.

Sell More Oil! Without Increasing Your Production

There are hundreds of operators who could sell more oil without increasing their production—simply by using our *Vapor-Pressure* Tanks to save the oil now stolen by evaporation between the wells and the pipe line.

Unless proper preventive measures are utilized, lease tanks breathe out rich vapors, the loss of which reduces the amount and the gravity of oil to be sold. MALONEY Vapor-Pressure Tanks prevent breathing by holding the vapors under pressures sufficient to eliminate excessive popping off.

You spend money for production in order to make money. There is no reason why you shouldn't use tanks which allow you to sell all the oil produced.

"Alone in Quality"

MALONEY TANK MFG. COMPANY
Tulsa, Okla., U.S.A.
Distributers at All Principal Petroleum Points

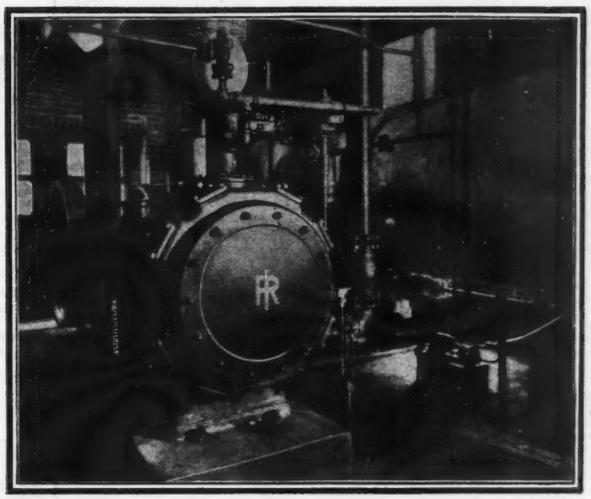
Maloney A.P.I. Bolted Steel Tanks conform with A.P.I. dimensional standards and carry the official A.P.I. monogram.

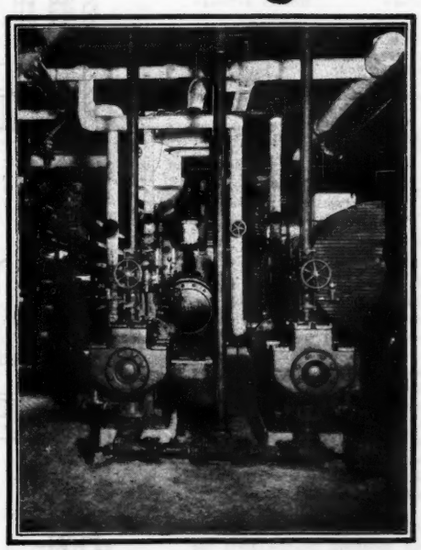
MADE OF AMERICAN

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY ALONE!

Minus 55°F easily maintained with a Vogt Booster Unit





The illustration at upper right is a closeup of the Auxiliary Ammonia Vacuum Compressor.

Above—A general view of an existing Absorption Refrigerating Machine showing the Auxiliary Ammonia Vacuum Compressor in the background.

COMMERCIALLY economic results in the production of sub-zero pour test oils are now possible since the necessary low refrigerating temperatures are easily reached and maintained. Your present refrigerating equipment, with the aid of an Auxiliary Ammonia Vacuum Compressor, will produce and maintain oil temperatures as low as —55 degrees F. (—60deg. ammo. temp.) without sacrificing capacity.

The popular demand for one oil suitable for opposite extremes of temperature is increasing daily and every alert producer of lubricants should investigate the saving afforded by the addition of a Vogt Booster Unit.

Write for complete details

HENRY VOGT MACHINE CO.

INCORPORATED

LOUISVILLE, KY.

Manufacturers of: Oil Refinery Equipment, Drop Forged Steel Valves and Fittings, Water Tube and Horizontal Return Tubular Boilers, Ice Making and Refrigerating Machinery.

Branch Offices: NEW YORK CHICAGO PHILADELPHIA CLEVELAND DALLAS

Name and address—	Barrels	M. feet	Amount
Gardner, Addie,* Enid	.....	.....	6,538.44
Bixby, Ina Gardner,* Enid	.....	.....	6,538.44
Georgia Oil & Gas Co., Capron	.....	.....	4,930.51
Gertzelman, B. C.,* Algonquin, Ill.	.....	.....	2,741.56
Graham, James H., Tulsa	5,275.12	.....	7,362.38
Graham, Florence N.,* Montebello, Calif.	.....	.....	3,309.58
Graham, Florence N., trustee,* Montebello, Calif.	3,369.31	.....	5,969.40
Gilmer Oil Co., Ardmore	33,709.63	.....	39,918.03
Green, J. C.,* Maud	.....	.....	2,747.92
Green, Thelma,* Duncan	.....	.....	2,670.47
Greer, F. H.,* Tulsa	.....	.....	4,050.17
Galer Oil Co.* Tulsa	.....	.....	5,711.77
Green, J. D.,* Maud	.....	.....	3,696.31
Grisso Royalty Corp.,* Enid	.....	.....	2,509.27
Grisso, W. E.,* Seminole	.....	.....	32,249.27
Galt-Brown Co., Ardmore	20,394.54	.....	28,272.16
Garland, R. F., Tulsa	.....	.....	5,426.78
H			
Hales, W. T., Oklahoma City	39,708.67	.....	46,018.94
Hales, W. T., Oklahoma City	.....	39,349	1,468.03
Hales, W. T.,* Oklahoma City	3,597.54	.....	4,768.36
Hales, W. T.,* Oklahoma City	.....	4,486	86.02
Hemlock Oil Co.,* Tulsa	7,335.25	.....	10,521.42
Houston Oil Co. of Texas, Houston, Tex.	66,771.24	.....	94,561.85
Houston Oil Co. of Texas, Houston Tex.	.....	76,622	1,989.74
Hull, J. A., Co., Tulsa	25,000.59	.....	37,299.90
Hull, J. A., Co., Tulsa	.....	Gas	167.75
Highway Oil Refg. Corp., Tulsa	50,013.72	.....	68,426.69
Highway Oil Refg. Corp., Tulsa	.....	125,288	1,330.24
Harland Oil Co., Walco, Okla.	13,817.66	.....	15,400.67
Harland Oil Co., Walco, Okla.	.....	54,073	3,107.10
Hill Drilling & Dev. Co., Tulsa	7,475.49	.....	9,869.28
Homaokla Oil Co., Tulsa	101,684.38	.....	121,215.51
Homaokla Oil Co., Tulsa	4,851.41	.....	5,696.89
Homaokla Oil Co., Tulsa	.....	Gas	136.45
Houghton Royalties Co.,* Oklahoma City	Oil	.....	11,193.55
Houghton Royalties Co., Oklahoma City	.....	Gas	772.24
Harris-Hays Co., Okmulgee	7,487.20	.....	10,349.87
Harris-Hays Co., Okmulgee	.....	10,863	570.63
Harris-Hays Co.,* Okmulgee	.....	.....	6,387.74
Harris, V. V.,* Oklahoma City	.....	.....	42,279.92
Harris, V. V., Oklahoma City	.....	.....	13,265.39
Harris, A. L.,* Shawnee	.....	.....	3,123.04
Harris, E. L., Tulsa	.....	.....	56,770.80
Harris, E. L., trustee,* Tulsa	.....	.....	8,001.67
Harris and Haun, Inc., Blackwell	.....	.....	14,485.14
Hefner Co.,* Oklahoma City	.....	.....	6,976.11
Henderson Oil Co., Marietta, Ohio	6,937.47	.....	8,317.00
Hopper, P. N.,* Lubbock, Tex.	.....	.....	21,037.43
Hiddleston, Dale,* Oklahoma City	.....	.....	8,307.59
Hiddleston, Earle W.,* Oklahoma City	.....	.....	8,307.59
Hiddleston, Sarah Susan,* Oklahoma City	.....	.....	8,307.59
Hiddleston, Weldon M.,* Oklahoma City	.....	.....	8,307.59
Hardy Grace E.,* Ripley	.....	.....	2,781.76
Haun, Carl B.,* Blackwell	.....	.....	3,763.83
Hudson, J. H., Ardmore	.....	.....	30,994.68
Hyde, C. B.,* Oklahoma City	.....	.....	4,067.53
Hilltop Inv. Co.,* St. Louis, Mo.	.....	.....	2,184.73
Hyden, Arch H.,* Tulsa	1,440.16	.....	2,166.65
Hay and McClure, Peoria, Ill.	8,965.80	.....	14,192.65
Hay and McClure, Peoria, Ill.	.....	Gas	177.33
Hildt, Fred T.,* Tulsa	7,988.20	.....	11,967.69
Hughes Oil Co., T. J., Cushing	.....	.....	5,067.79
Horton, E. N.,* Ardmore	.....	.....	2,003.21
Hesco Oil Royalty Corp.,* New York City	.....	.....	3,166.40
Harman, Gertie,* Guthrie	.....	.....	2,128.93
Hollenbach, Anna W.,* Shelbyville, Ky.	.....	.....	10,385.84
Hall, E. D., attorney for Thomas Ryan,* Wetumka	.....	.....	6,048.88
Hall and Briscoe, Inc., Oklahoma City	132,376.57	.....	205,573.69
Hayes, S. W., Oklahoma City	56,856.56	.....	80,486.86
Hayes, S. W., Oklahoma City	.....	Gas	1,139.96
Harwell, E. P., Tulsa	2,773.22	.....	5,656.45
Hanson, Edwin,* Duncan	.....	.....	3,845.06
Hassman, E. A.,* Oklahoma City	.....	.....	2,421.29
Harrington, W. J., Coffeyville, Kans.	3,229.41	.....	3,944.92
Horton, A. D.,* Hawarden, Iowa	7,198.83	.....	8,214.85
Frank Haskett, agent, Tulsa	8,554.51	.....	10,202.98
Hernstadt,* N., New York City	3,360.83	.....	4,131.87
Hollenbach, Anna W.,* Shelbyville, Ky.	.....	.....	11,190.49
Heenan Oil Co.,* Ardmore	.....	.....	2,297.36
Hailley, C. E., agent,* Garber	.....	.....	3,579.53
Home Stake Oil & Gas Co., Tulsa	.....	.....	6,795.40
Home Stake Oil & Gas Co.,* Tulsa	.....	.....	110,384.28
Home State Royalty Corp.,* Tulsa	.....	.....	13,163.00
Home State Royalty Corp., Tulsa	.....	.....	6,795.39
Home Gas Co. of Cushing, Cushing	18,828.62	.....	37,432.86
Harber, W. E.,* Seminole	.....	.....	8,982.18
Harber, Claude,* Seminole	.....	.....	2,547.63
Harber, J. N.,* Seminole	.....	.....	2,294.02
Harber & Riddle, Inc.,* Seminole	.....	.....	2,667.85
Hudson, Hargrove,* Tulsa	.....	.....	8,329.42
Harjo, was Maud Wood,* Muskogee	.....	.....	14,250.52
Hall, Benjamin T.,* Las Cruces, N. M.	.....	.....	2,347.92
Henry, J. W., Tulsa	3,183.96	.....	10,480.54
Healdton Petroleum Co., Ardmore	Oil	.....	6,125.23
Healdton Petroleum Co., Ardmore	.....	Gas	151.84
I			
Iron Mountain Oil Co., Tulsa	15,528.41	.....	19,258.84
Iron Mountain Oil Co.,* Tulsa	3,202.48	3,055	4,230.75
Indian Royalty Co.,* Okmulgee	26,030.98	.....	36,378.10
Investors Royalty Co., Inc.,* Tulsa	60,038.67	.....	85,565.49
Investors Royalty Co., Inc., Tulsa	.....	Gas	2,933.40
Independent Oil & Gas Co., Tulsa	683,371.62	.....	945,251.09
Independent Oil & Gas Co., Tulsa	.....	Gas	78,572.47
Independent Oil & Gas Co.,* Tulsa	6,836.78	.....	11,665.28
Independent Oil & Gas Co., Tulsa	.....	.....	4,929.65
Imperial Royalties Co.,* Kansas City, Mo.	..... Oil	.....	182,441.95
Imperial Royalties Co.,* Kansas City, Mo.	.....	Gas	4,381.54
Indiana Oil & Gas Co., Tulsa	22,896.07	.....	29,571.38
Indiana Oil & Gas Co., Tulsa	.....	15,434	2,058.00
Imo Oil & Gas Co., Covington	.....	.....	9,247.61
Ice, L. F. and A. B., & Ice Drilling Co., Tulsa	8,830.52	10,909	11,037.44
Illinois-Oklahoma Petroleum Corp., Duncan	2,008.72	.....	2,157.01
Illinois-Oklahoma Petroleum Corp., Duncan	.....	34,632	2,791.10
Ingram, H. L.,* Shawnee	.....	.....	3,399.33
Ingram,* J. A., Duncan	.....	.....	12,473.51
Ingram Royalty Co.,* Shawnee	.....	.....	9,183.84
Indian Territory Illuminating Oil Co., Bartlesville	2,836,470.68	.....	3,918,572.80
Indian Territory Illuminating Oil Co., (acquired from Foster Petroleum Co.), Bartlesville	705,448.12	.....	969,923.37
Indian Territory Illuminating Oil Co., Bartlesville	.....	C.H. 3,890,668	43,873.97
Indian Territory Illuminating Oil Co., Bartlesville	.....	Gas 4,797,274	374,095.64
Indian Territory Illuminating Oil Co., Bartlesville	.....	C.H. 213,437	3,907.83
Indian Territory Illuminating Oil Co.,* Bartlesville	..... C.H.		3,149.40
Indian Territory Illuminating Oil Co.,* Bartlesville	160,676.88	.....	236,096.40
Indian Territory Illuminating Oil Co.,* Bartlesville	..... M.F.	53,097	4,978.87
Irelan, O. M., Sapulpa	4,399.78	.....	5,491.57
Irelan, O. M., Sapulpa	.....	Gas	695.80
Irwin, R. A., Tulsa	13,475.73	2,258	18,633.94

(Continued on Page 150)

RUSSIAN DRILL TESTED IN OKLAHOMA FIELD

(Continued from Page 36)

apparatus must be considered fully satisfactory, as can be seen from the following comparative operating data for it and for rotary drilling equipment:

Speed of Drilling

a. The Texas Company's well No. 1 Jenny Lind, Seminole, depth 2,192 feet:

EXPERIMENT OF DECEMBER 11, 1929

Turbine drilling*		Rotary drilling†	
1 ft.	5.5 min.	1 ft.	18 min.
2 ft.	9.5 min.	2 ft.	25 min.
3 ft.	8.5 min.	3 ft.	11 min.
4 ft.	12.0 min.	4 ft.	12 min.
5 ft.	11.5 min.		
6 ft.	17.0 min.		
7 ft.	9.0 min.		
8 ft.	8.5 min.		
9 ft.	4.5 min.		

*Average speed, 9 feet in 86 minutes, or 6.2 feet per hour. †Average speed, 3.7 feet per hour.

The drilling was conducted in shale formation with sandstone and lime layers.

EXPERIMENT OF DECEMBER 13, 1929

Turbine drilling*		Rotary drilling†
1 ft.	10 min.	
2 ft.	9 min.	
3 ft.	12 min.	
4 ft.	13 min.	
5 ft.	17 min.	
6 ft.	25 min.	

*Average speed, 4.2 feet per hour. Formations, hard shale with sandy layers. †According to the official letter of The Texas Company, the conditions for rotary drilling in this well are described as hard with an average hourly speed of not over 4 feet per hour.

Therefore, with the turbine, the speeds obtained exceeded those of normal rotary drilling by 50 per cent in one case. This indicates the possibilities which are contained in drilling wells with turbo-rotors.

b. Magnolia well, 950 feet deep:

First Drilling

Turbo drilling*	Rotary drilling†
9 ft. ..... 73 min.	
11 ft. ..... 61 min.	

*Total 20 feet in 134 minutes, or an average of 9 feet per hour. †The rotary was placed in operation immediately after the turbo drill and gave 80 feet in 15 hours or not over 5.5 feet per hour.

Second Drilling

Turbo drilling*	Rotary drilling†
56 ft. ... 1 hr. 27 min.‡	
10 ft. ... 2hr. 5 min.§	

*In the new formation the turbo-rotor operated at an average speed of 5 feet per hour. †The rotary was operated immediately after the turbo-rotor for 10 hours and gave 48 feet, or 4.8 feet per hour. ‡Loose slide. §New formation.

The speeds obtained with the turbo-rotor were far from the best possible under the circumstances, as the drill operator was compelled to work cautiously under new conditions and obviously could not obtain the maximum power and effect from the apparatus.

Period of Operation

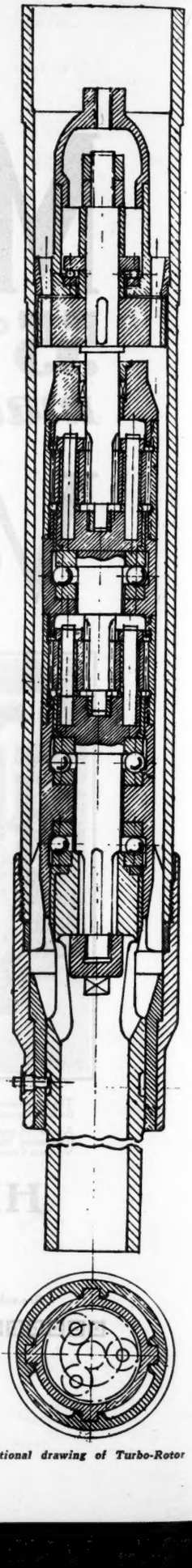
The question of the operating speed for 24 hours depends, to a considerable extent, on the length of time of one continuous drilling and the time required for replacement of worn-out parts at the well.

Under ordinary conditions in Baku, the apparatus remains in the well for about two or three hours, then it is removed for the renewal of lubrication. The bits used in Mid-Continent fields remain in the well for 15 to 18 hours, having a corresponding amount of lubricant. During the test at the Magnolia well on January 17, 1930, it was necessary to remove the apparatus on account of lubrication only; and its operation during drilling periods was quite satisfactory, as may be seen from the following:

1 ft.	12 min.	11 ft.	6 min.
2 ft.	7 min.	12 ft.	6 min.
3 ft.	8 min.	13 ft.	5 min.
4 ft.	7 min.	14 ft.	5 min.
5 ft.	8 min.	15 ft.	6 min.
6 ft.	8 min.	16 ft.	6 min.
7 ft.	7 min.	17 ft.	6 min.
8 ft.	8 min.	18 ft.	5 min.
9 ft.	8 min.	19 ft.	6 min.
10 ft.	5 min.	20 ft.	5 min.

The oil supply in the apparatus was later increased by the addition of a special lubricator so that during later tests in the Magnolia wells it was possible to increase the drilling periods to four hours without any difficulty. The problem of lengthening this period, therefore,

(Continued on Next Page)



Sectional drawing of Turbo-Rotor drill.

in accordance with the drilling requirements, can be solved with further development.

During the first tests with the turborotor, when the drilling crew was not yet familiar with the new conditions, the time required for changing or replacing worn parts was much longer than necessary. But even including this extra long shutdown time, the footage drilled by the turbine in 24 hours exceeded that drilled by the rotary drill.

Comparative Speeds

From the reports on tests in the Texas and Magnolia wells at different depths and with different formations, where different bits were used. it appears that under no conditions were the drilling speeds lower than the corresponding speeds with rotary drills, as can be seen, for instance, from the following table:

Company—	Depth
Magnolia, Jan. 17, 1930	950- 970
Magnolia (Seminole), Jan. 21, 1930	1,225-1,235
Texas Co. (St. Louis), Dec. 11, 1929	2,192-2,301
Texas Co. (St. Louis), Dec. 13, 1929	2,311-2,319

Speed with Turbo-Rotor	Speed with Rotary outfit	Formation
9.0	5.5	Slaty shale with layers of hard sand and hardened earth.
5.0	4.8	Hard shale with sandstone layers; gray-brown shale; sticky.
6.2	3.7	Hard shale with lime layers.
4.6	4.0	Hard shale with sand layers.

It had been reported that when a turbo drill was used with stationary rotary pipe, the jamming of the tool in the well was unavoidable. During these experiments, however, this did not happen. Each time the apparatus was removed without difficulty and no jamming occurred. The operations were conducted with mud solutions of various consistencies from 9 to 11 pounds per gallon, and in The Texas Company's solution there was over 50 per cent of sand, so that it was necessary to clean the receiving tank frequently.

Result of Tests

During these tests in the wells of the Magnolia and Texas companies, the apparatus, when raised after a long operation, proved to be in good working condition and not one of the operating parts was damaged. The only trouble which repeatedly occurred in the Texas well—and afterward in the Magnolia well—consisted of shearing the bolts of the turbine guiding wheel and the weakness of the upper ball bearing. The latter was replaced with a thrust bearing after tests in Oklahoma City. The new bearing gave good results, so that this trouble should be considered at an end, especially as the operation of the turbo drill with a fishtail bit fully proved its dependability. The shearing of stopper bolts which repeatedly occurred at depths of 1,185, 2,300 and 4,000 feet was caused, not by the depth of the operations or the pump pressure, but by the equipment of the drilling pipes with a reverse valve, which was not used in the United Socialistic Soviet Republic. When lowering the pipes at a definite speed with increased pressure on the reverse valve, a certain combination of forces is created when the reaction of the guiding wheel shears the stopper bolts and lifts up the guiding wheel. However, this problem is not a difficult one; it can be solved by replacing the bolts with keys and fastening the wheel with special bushing.

KENTUCKY-TENNESSEE

(Continued from Page 74)

Petroleum Exploration Co.'s last well just completed on the Yeiser farm, in the Red Hill Pool, is said to show around 100 bbls. the first 24 hours. Unknown parties drilled what shows for a 35-bbl. pumper on the Forrest Salmon farm, in the Red Hill Pool. Evans & Garrison's No. 11 on the Davis heirs' 109 acres, produced close around 50 bbls. initial. This has been a very good producing strip in the Red Hill Pool. Same parties' No. 2 on the J. C. Malone in the Utica Pool, produced 8 bbls. at 1,451 feet, while No. 3 same farm, was dry.

Henderson County Wells

The Niagara Pool is getting its bumps as have other pools in the past in western Kentucky, the last three being failures. Duncan & Carroll's No. 1 on the C. B. Legg, in the Niagara Pool, was dry. P. E. Tichenour and others got one in No. 1 on the Paton Legon farm, and the Niagara Oil & Gas Co. also has a duster in No. 1 on the Cleveland Griffin farm in the Sebree Pool.

McLean County Wells

F. Cox and others drilled a test on the C. L. Martin farm, near Maxwell and got a dry hole, according to late reports. Miller and Damron's, or the Creek Drilling Co.'s test on the Barrett Hill farm, south of Liva, is rated at 75 bbls. initially.

Field Pickups

Loman, Daley and others are drilling No. 4 on the James B. McGovern farm, in the Pellville Field, of Hancock County. Miller and Damron, the Creek Drilling Co., starting a second test on the Barrett Hill farm in McLean County, just south of Liva.

Carl Wiedemann, of the Cumberland Petroleum Co., of Cleveland, spent some time looking over the company's holdings in the Owensboro Field.

Harry L. Ogle has returned from his home in Columbus, Ohio, to the Friendship Church Field in Ohio County.

Maurice Yeager, of Terre Haute, Ind., discoverer of the Siosi oil field in the southern part of Vigo County in Indiana, has been looking over the Kentucky Field. Mr. Yeager has been the guest at Owensboro of James C. Ellis and Jim Thomas, two of Kentucky's large operators, who are planning to test territory in Vigo and adjoining counties in Indiana.

SOUTHWEST TEXAS

(Continued from Page 51)

northwest line, Block 22, Charco Redondo grant; total depth 973 feet; sand 970-73 feet tested small amount of gas and salt water; abandoned.

Darst Creek—Guadalupe County

Empire Gas & Fuel Co.'s No. 2 Knoblock, 600 feet south line, 150 feet east line of 40-acre tract in the J. R. Robinson Survey; total depth 2,635 feet; abandoned. Magnolia Petroleum Co.'s No. 3-A M. E. Roamel, 450 feet north-south line, 150 feet west-east line of tract in the J. R. Robinson Survey; total depth 2,862 feet; abandoned.

NEW LOCATIONS

Cartwright Pool—Live Oak County

Houston Oil Co.'s No. 22 Cartwright, 500 feet east of No. 18 in the J. M. Colchado Survey.

Cole Pool—Duval County

Cole Petroleum Co.'s No. 69 R. Benavides, 660 feet northeast line, 660 feet northwest line Cole Subdivision, Mariano Arispe grant, Block 6, Survey 20.

Schoolfield-O'Byrne—Duval County

Magnolia Petroleum Co.'s No. 1 Lundell, 450 feet north line, 150 feet east line, southeast quarter Survey 60; total depth 2,400 feet; drilling.

Cole Pool—Webb County

French Oil Corp.'s No. 2-A Rosa Benavides, 550 feet north line, 150 feet west line Survey 659.

Jennings Pool—Zapata County

Wicker and others' No. 1 M. Garza, 450 feet northeast line, 450 feet northwest line Block 1, Subdivision Zorro Ranch, Comitas grant; derrick.

DRILLING ACTIVITY

Nursery Pool—Victoria County

Humble Oil & Refining Co.'s No. 3-A Jay J. Welder, 1,634 feet southeast lines, 736 feet southwest lines D.L.&C. Survey; total depth 5,900 feet; heaving shales; plugging back and running perforated liner to test 5,900 feet; testing sand.

Pettus Field—Bee County

Houston Oil Co.'s No. 1 J. R. Beasley, center Block 36, Pettus Townsite; preparing to run surface casing. Humble Oil & Refining Co.'s No. 3 J. J. McKinney, 150 feet from west line, 1,200 feet south of No. 1 in the L. C. Randolph Survey; total depth 405 feet; drilling in gumbo. Union Production Co.'s No. 9 George Ray, 150 feet from east line of survey, 1,450 feet south of north corner of L. C. Randolph Survey; total depth 203 feet; drlg. in clay.

Lasater Pool—Brooks County

Houston Oil Co.'s No. 1 Holbien Wormser in the Palo Blanco de Maguellas Survey; total depth 6,003 feet; plugging back.

Cartwright Pool—Live Oak County

Houston Oil Co.'s No. 1 R. Boothe, 3,000 feet from west line, 300 feet from south line in the M. B. Kilvin Survey; total depth 3,384 feet; drilling in shale and lime.

Agua Dulce Field—Nueces County

Houston Oil Co.'s No. 1 M. E. Brooks, 330 feet from north and east lines of Fractional Section 29, Benton Pasture Subdivision, Los Sauces grant; total depth 2,418 feet; drilling in shale.

Bruner Pool—Caldwell County

Humble Oil & Refining Co.'s No. 3 New, 150 feet from north line, 1,838 feet from west line of tract in the James Hinds Survey; total depth 2,390 feet; drilling in chalk.

Cole Pool—Duval County

W. E. May's No. 1 R. Benavides, 150 feet southwest line, 150 feet southeast line Cole Subdivision, Mariano Arispe grant, Block 4, Survey 22; total depth 800 feet; drilling. F. S. Bain-Miller I. Shaw's No. 1 S. Benavides, 1,950 feet west line, 180 feet north line Survey 173, total depth 2,300 feet; drilling.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 5 Kohler, 1,155 feet east line, 330 feet north line Survey 144; total depth 286 feet; set 10-inch casing at 286 feet. Simms Oil Co.'s No. 9 Dinn, 660 feet east line, 660 feet south line of NW SE, Survey 143; rigged up; standing. Humble Oil & Refining Co.'s No. 41 Kohler, 2,970 feet south line, 330 feet east line Survey 165; location.

Roma Pool—Starr County

The Texas Company's No. 1-B V. C. de Guerra, 150 feet south line, 150 feet west line, Jurisdiction of Mier; total depth 3,610 feet; drilling; set 6⅝-inch casing at 3,511 feet to protect hole.

Aviator Pool—Webb County

O. W. Killam's No. 1-V A. M. Bruni, 178 feet east line, 1,180 feet north line, Block 22, Brown Subdivision, Albercas grant; total depth 3,100 feet; drilling.

Carolina-Texas—Webb County

E. D. Claggett and Sam Evans' No. 1 Webster, 150 feet south line, 990 feet west line, Survey 684; total depth 500 feet; drilling. W. R. Shankle's No. 2 Webster, Survey 684; rigging up.

Cole Field—Webb County

South Texas Production Co.'s No. 1 S. Benavides, 200 feet northwest line, 150 feet southwest line, Myrtle E. Hale Subdivision, Block 18, Mariano Arispe grant; total depth 2,500 feet; drilling; sand 2,480 feet tested 6 fourbles salt water. French Oil Corp.'s No. 1 R. Benavides, 150 feet north line, 150 feet west line, Survey 659; total depth 2,352 feet; standing; 1,000 feet oil in hole, no gas. Morris Drilling Co.'s No. 2 S. Benavides, 289 feet northwest line, 150 feet northeast line, Myrtle E. Hale Subdivision, Block 431, Mariano Arispe grant; total depth 1,784 feet; preparing to drill deeper from 1,784 feet. O. W. Killam's No. 18 Bruni, total depth 4,035 feet, shale.

Charco Redondo—Zapata County

Mid-West Public Utilities' No. 1 Garcia, 450 feet southwest line, 450 feet southeast line, Block 33, Pedernal grant; total depth 1,050 feet; drilling. C. R. Moore and J. M. Moore's No. 1 Adela G. de Flores, 330 feet northwest line, 330 feet northeast line, Block 99, Charco Redondo grant; location.

Jennings Pool—Zapata County

O. W Killam's No. 17-B Cuellar, 150 feet south line, 150 feet southwest line, Survey 277; location. O. W. Killam's No. 18-C Cuellar, 2,804 feet southeast of northwest corner, 150 feet southwest line, Survey 278; rigging up. O. W. Killam's No. 24 Cuellar, 2,926 feet northwest line, 150 feet northeast line, Cerrito Blanco grant; location. O. W. Killam's No. 25 Cuellar, 3,226 feet northwest line, 150 feet north line, Cerrito Blanco grant; rigging up. Trinity Drillers, Inc.'s No. 1 Trevino, 450 feet west line, 150 feet north line, Block 8, Survey 66; sand 1,243 feet, set 6⅝-inch casing at 1,240 feet. Trinity Drillers' No. 1 F. Cuellar, 150 feet northwest line, 150 feet east line, Block 12, Survey 65; location. O. W. Killam's No. 23 Cuellar, 150 feet northeast line, 28 feet northwest line, Cerrito Blanco grant; total depth 1,150 feet; drilling. John J. O'Hern's No. 1 Gracia, 150 feet southeast line, 150 feet northeast line, Share 3, Comitas; total depth 1,225 feet, set 6⅝-inch casing at 1,218 feet; sand 1,218-25 feet. W. R. Shankle's No. 1 Cuellar, 61 feet northwest line, 200 feet southwest line, Block 15, Survey 65; total depth 1,246; sand 1,246 feet; drilling plugs. H. Muckelroy's No. 3 Trevino, 460 feet south line, 300 feet east line, Block 25, Survey 412; rigging up to drill deeper from 1,281 feet. Magnolia Petroleum Co.'s No. 3 Cuellar, 150 feet to northeast and southeast lines, Survey 245; total depth 4,314 feet; drilling. South Texas Production Co.'s No. 9 Measles and others, 3,830 feet southeast line, 660 feet northeast line, Cerrito Blanco grant; total depth 1,756 feet; drilling. Livingston & Twiss' No. 1 Trevino, 150 feet north line, 150 feet west line, Block 7, Survey 66; total depth 1,270 feet; set 4½-inch casing at 1,254 feet. Alamo Drilling and Leasing Co.'s No. 3 Trevino, 500 feet east line, 150 feet north line, Block 1, Survey 66; derrick. R. F. Blankenship's No. 2 Graza, 425 feet west line, 425 feet north line, Block 2, Survey 413; total depth 1,650 feet; standing (depth corrected). G. F. Owen's No. 2 Montemayor, 820 feet east line, 150 feet north line, Block 7, Survey 64; total depth 1,323 feet; sand 1,303-23 feet; standing 400 feet oil; installing pump.

Darst Creek—Guadalupe County

Abercrombie-Harrison No. 3-A Dix-McKean, 450 feet south line, 425 feet west line, 20-acre tract in the J. R. Robinson Survey; total depth 2,050 feet; drilling in Taylor marl. Abercrombie-Harrison's No. 4 Dix-McKean, 150 feet north line, 150 feet east line, 20-acre tract, J. R. Robinson Survey; total depth 1,200 feet; drilling in shale. Empire Gas & Fuel Co.'s No. 5 Dowdy, 792 feet from north line, 150 feet from east line of tract, in the J. C. Darst Survey; derrick. W. H. Gee's No. 1 Denman, 2,684 feet east of west line, 3,350 feet north of south line, A. S. Emmett Survey; spudded in. Gulf Production Co.'s No. 2-A Dix-McKean, 150 feet from southeast and southwest lines of 20-acre tract, J. R. Robinson Survey; total depth 2,517 feet. Humble Oil & Refining Co.'s No. 14 Denman, 4,300 feet from southeast corner, 150 feet east line of A. S. Emmett Survey; total depth 2,375 feet; hard Taylor marl. Magnolia Petroleum Co.'s No. 2 Klein, 450 feet from north line, 150 feet from west line of 243-acre tract, J. R. Robinson Survey; location. Magnolia Petroleum Co.'s No. 1 A. J. Manford, 1,257 feet from southwest corner, 150 feet southeast line of 210-acre tract in the southeast corner of the Ed Pettus Survey; total depth 3,010 feet; drilling in Georgetown. Penn-Tex Oil Co.'s No. 1 S. M. Roamel, 150 feet south line, 1,400 feet west of east line of 150-acre tract, in the J. R. Robinson Survey; moving in. Sun Oil Co.'s No. 2 Manford, 150 feet from southwest line of tract, 300 feet southeast of No. 1 well, in the J. Hodges Survey; total depth 2,750 feet; coring Buda lime.

ROCKY MOUNTAIN AREA

(Continued from Page 54)

hydrite. It also had a show of gas at 2,903 feet. The bottom of the salt was at 2,615 feet and the top of the lime at 2,897 feet. The Midwest Refining Co.'s No. 33 Byers, SE SW NE, Section 4-19-38, is drilling at 1,610 feet in lime and anhydrite. The 12½-inch was cemented at 1,523 feet. The same company's No. 8 State, C NW NW, Section 4-19-38, has rig on ground. The Sun Oil Co.'s No. 1 McKinley, NE cor., Section 5-19-38, is rigging up. The Landreth Production Co.'s No. 1 State, SW cor. SE, Section 7-18-38, is drilling at 1,400 feet in red rock. The Texas Pacific Coal & Oil Co.'s No. 1-G State, SE cor., Section 24-18-37, is drilling at 2,835 feet in anhydrite with the 9⅝-inch cemented at 2,813 feet. The Texas Production Co.'s No. 1-C State, NE cor., Section 25-18-37,

is drilling at 201 feet in red rock. Hobbs High, Inc.'s No. 1 Tatum, NW SW SW, Section 35-18-38, is drilling at 1,500 feet in red rock. The Shell Petroleum Corp.'s No. 1 State, SE SW NE, Section 32-18-38, is drilling at 3,685 feet in lime and had a small increase in gas at 3,678 feet. The Amerada Petroleum Corp.'s No. 1-A State, SW NW NE, Section 32-18-38, is drilling at 1,225 feet in shale. The Ohio Oil Co.'s No. 1 State-Northrup, NE NW SE, Section 32-18-38, encountered a break at 3,123-39 feet and is preparing to core ahead. Gas at 2,833 feet was mudded off. The Gypsy Oil Co.'s No. 1 Grimes, NW cor., Section 32-18-38, bottomed the salt at 2,493 feet and cemented the 9⅝-inch at 2,733 feet. The Shell Petroleum Corp.'s No. 2 State, NW SW NE, Section 32-18-38, commenced spudding on May 14. The Empire Gas & Fuel Co.'s No. 1 Fowler, NE cor., Section 31-18-38, is drilling at 1,444 feet in red rock with the 12½-inch at 244 feet. The Humble Oil & Refining Co.'s No. 3 Bowers, SW cor., Section 29-18-38, is rigging up rotary at 218 feet, and its No. 7 Bowers, SW cor. NW, Section 29-18-38, has derick up. The Tidal Oil Co.'s No. 1 Grimes, SW NE SE, Section 29-18-38, is drilling at 2,400 feet in salt. The top of the salt was at 1,700 feet. The California Co.'s No. 1 Grimes, NW SE SE, Section 29-18-38, spudded on May 10 and cemented the 13⅜-inch at 217 feet. The Amerada Petroleum Corp.'s No. 1 McKinley, NW cor., Section 30-18-38, cemented the 9⅝-inch at 2,755 feet, and the Humble Oil & Refining Co.'s No. 5 Bowers, NW NE SE, Section 30-18-38, cemented the 12½-inch at 212 feet. The Ohio Oil Co.'s No. 1 State, NE cor. SW, Section 30-18-38, is drilling at 2,725 feet in anhydrite. It bottomed the salt at 2,500 feet. George F. Getty, Inc.'s No. 1 McKinley, SW cor. NE, Section 30-18-38, is drilling at 1,280 feet in red rock, and its No. 2 McKinley, SW SE NE, Section 30-18-38, is spudding at 40 feet. The same firm's No. 3 McKinley, NW SE NE, Section 30-18-38, has completed cellar. W. C. McBride's No. 1 McKinley, SE cor. NE, Section 30-18-38, has rig on the ground. The Amerada Petroleum Corp.'s No. 2 McKinley, SE cor. NW, Section 30-18-38, is drilling at 2,500 feet in salt and anhydrite. The top of the salt was at 1,615 feet. The Humble Oil & Refining Co.'s No. 2-A Bowers, NW cor. SE, Section 30-18-38, is drilling at 1,465 feet in anhydrite. The top of the anhydrite was at 1,430 feet. The Humble's No. 4 Bowers, SE cor., Section 30-18-38, is rigging up rotary at 210 feet. Same company's No. 6 Bowers, NE cor. SE, Section 30-18-38, spudded May 12 and is drilling in sand at 120 feet. The Shell Petroleum Corp.'s No. 1 McKinley, SW cor., Section 19-18-38, is drilling at 3,422 feet in anhydrite. It had a show of gas at 3,255-77 feet.

Tatum Area—Lea County

A. D. Morton and others' No. 1 State, C NW, Section 32-11-38, is drilling at 4,915 feet in lime. It had a show of salt water at 4,635 feet.

Cooper Area—Lea County

The Texas Pacific Coal & Oil Co.'s No. 4 State, NW NE NW, Section 21-23-36, has stopped at 3,644 feet in sand to test a show of oil at 3,605-33 feet. This was followed by 500,000 feet of gas per day at 3,633-44 feet. Cranfill & Reynolds' No. 1-C State, SW SE SW, Section 16-23-36, has not yet succeeded in plugging back from 3,953 feet, due to a fishing job. Two strings of tools are in the hole.

Eunice Area—Lea County

The Ohio Oil Co.'s No. 1 State-McDonald, NW SW, Section 15-22-36, is shut down for water at 915 feet. The Tidal Oil Co.'s No. 1 Colman, SW cor. NE, Section 17-21-36, is rigging up rotary. The Empire Gas & Fuel Co.'s No. 1 Closson, NW SE, Section 6-22-36, has plugged back from 4,237 feet to 4,190 feet.

Maljamar Area—Eddy County

The Pueblo Oil Co.'s No. 5 Russell, SW cor. NW, Section 18-17-31, is reaming at 3,200 feet, and Leonard & Levers' No. 3 State, NE SW, Section 21-17-29, is drilling at 2,200 feet. Henderson, Dexter & Blair's No. 1 Grier, SW cor. NW, Section 21-16-31, is drilling at 3,500 feet, and Lockhart & Co.'s No. 2-X Parke, NW NW, Section 23-17-30, is building rig. The Pecos Valley Gas Co.'s No. 6 Vandergriff, SW NE, Section 5-17-28, is drilling at 605 feet.

Maljamar Area—Lea County

The Maljamar Oil & Gas Co.'s No. 3 Baish, SE NE NW, Section 21-17-32, is fishing at a total depth of 2,912 feet.

Jal Area—Lea County

The Midwest Refining Co.'s No. 34 Farnsworth, SW SE SE, Section 13-26-36, is drilling at 1,170 feet in red rock with a hole full of water.

San Juan County

The way has been paved for further development of the Kutz Canon area in San Juan County by the lifting of restrictions on drilling permits by the Department of the Interior. This area has developed gas in several wells and is expected to furnish part of the supply for towns in central New Mexico to which the Southern Union Gas Co. is now building a line. Attention to this area was attracted in 1926 when the New Mexican Eagle Oil Co. drilled a well on the NE cor., Section 22-28-11, which was estimated at 2,000,000 feet a day from sand at 597-602 feet. Since then drilling has been confined to a few wells. The Southern Union recently took over one of the wells but was unable to complete it due to a bad hole. The rotary rig has been moved to the SW cor. NW, Section 12-28-11, and is rigging up, permission to go ahead having been received. The New Mexican Eagle Oil Co.'s No. 1 Strickland, SW SE NW, Section 14-28-11, which has been standing as a location without spudding since 1928, also will go ahead with this test. This company has a permit covering Sections 14, 15, 22 and 23. The Kutz Canon Oil & Gas Co. is reported to have been unable to reach an agreement with the Southern Union Gas Co. for the operation of its properties and is preparing to resume in its No. 1 Day, SW cor., Section 20-28-10, which is standing at 1,410 feet. The Southern Union, which is constructing a line from the San Juan County gas fields to Albuquerque and other towns, has concluded a deal whereby it acquires from the Hope Engineering Co. the properties of its subsidiaries, the Mesa Grande Gas Co. and the Durango Natural Gas Co. These two companies transport gas from the wells of the Midwest Refining Co. and the Producers & Refiners Corp. on the Ute structure to Durango, Colo., where it is marketed for domestic consumption. The deal not only increases the Southern Union's operations, but gives it an additional gas supply for the cities and towns in central and southeastern New Mexico.

UTAH

The Midwest Refining Co.'s No. 31 Pary, SW SE, Section 14-39-1w, Kane County, for the account of the Utah Oil Refining Co., is bottomed at 3,890 feet and will lower the 8⅝-inch from 3,054 feet to make a water shutoff. A show of oil at 3,887 feet was reported. The hole is still bottomed in the Kaibab lime. The Utah Southern Oil Co.'s No. 1 State, SW SE, Section 26-21-23, Grand County, is lowering the 8¼-inch through cavey conglomerate at 2,300 feet. The Cisco Springs Syndicate's No. 1 Moss, SE SW, Section 9-20-23, is bottomed at 2,003 feet on top of the Dakota and pulling the 8¼-inch to replace a damaged shoe. The Utah-Pennsylvania Oil Co.'s No. 1, NW NW, Section 3-10-4w, Box Elder County, is trying for a formation shutoff to test an oil and gas show. Last reported depth was 3,450 feet in the Pennsylvanian lime.

COLORADO

Weld County

The Platte Valley Petroleum Co.'s No. 1 Patterson, SW SW, Section 24-6n-61, Greasewood Dome, is drilling at 6,040 feet in the Niobrara shale.

Larimer County

The Continental Oil Co.'s No. 5 Scott, NE NW, Section 6-9-68, Wellington Dome, has 1,950 feet of fluid in the hole from the Muddy sand at a total depth of 4,315 feet and is tearing down tools. It will be given a pumping test.

Morgan County

The Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, is drilling at 1,600 feet.

Boulder County

The Lyons Oil & Refining Co.'s No. 1 Allen, NW NW, Section 17-2n-70, was found to have 200 feet of iron in the hole when operations were resumed. When within 15 feet of the old bottom, some oil was showing. It is shut down at 2,520 feet to case with 6⅝-inch before drilling into the Lakota. It is believed to be on top of that sand.

Arapahoe County

The MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, is drilling at 5,677 feet and carrying the 6¼-inch at 5,602 feet.

Jefferson County

The Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, is bottomed at 3,568 feet and installing new boiler. The 6⅝-inch will be underreamed and lowered before any new hole is made.

Bent County

The Continental Oil Co.'s No. 1 Pipe Springs, NE SE, Section 27-27-49, is held up at 6,075 feet in conglomerate with a fishing job. The granite wash through which the bit cut its way was 80 feet thick.

Fremont County

The Continental Oil Co.'s No. 4 San Isabel, NW SW, Section 22-20-69, is bottomed at 2,360 feet with oil in the hole, but has not yet been tested. It is in the south extension of the Florence Field.

Montrose County

The Uncompahgre Oil & Gas Co.'s No. 1 Colorado, SW NW, Section 27-50-10, is preparing to shoot a sand in the upper Sundance at 1,982-92 feet which had a good show of high grade paraffin base oil. It had water at 1,830-1,957 feet.

Jackson County

The Midwest Refining Co.'s No. 21-X Rich, SW NW, Section 9-6n-80, is bottomed at 3,504 feet in shale and underreaming at 3,488 feet. The Producers & Refiners Corp.'s No. 1 Hendershot, SE NE, Section 2-6n-81, is drilling at 3,834 feet in sandy lime.

Rio Blanco County

The topping plant at Rangely operated by the Raven Oil & Refining Co. was badly damaged by a fire which started in the still house and destroyed most of the refining equipment. Storage tanks containing 40,000 gallons of gasoline were not reached by the fire. There was no insurance. The company, which is controlled by the Leonard interests of Pennsylvania, operates on crude from shallow wells in the Rangely Field.

The Texas Production Co.'s No. 1 Potter, NE SW, Section 30-2n-96, White River, is bottomed at 5,984 feet with the drill pipe broken off in the hole. A string of 2½-inch tubing has been run and a test will be made of gas showing at this depth.

Moffat County

Keoughan, Myers and others' No. 1 State, SW SW, Section 16-4n-101, Midland Ridge Dome, is shut down after spudding to complete roads before moving in supplies. The Texas Production Co.'s No. 6 Knowlton, SE cor., Lot 8, Section 10-4n-91, Moffat Dome, is drilling at 4,450 feet. The Midwest Refining Co.'s No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock, is bottomed at 2,706 feet and running the 10¾-inch at 2,575 feet. The same company's No. 19-SD Parkinson, SW NE, Section 22-4n-92, Iles Dome, is drilling at 3,210 feet in gray and green sandy shell. The 8⅝-inch is at 3,110 feet. The Texas Production Co.'s No. 1 Berlin, SW NE, Section 19-12n-100, Bartram Dome, is in another sand showing gas at 2,573 feet and is lowering the 6¼-inch to 2,565 feet to shut off water and make a test. This well already has cut four horizons showing an aggregate of 72,000,000 feet of gas per day.

WYOMING

Weston County

Weston County, in northeastern Wyoming, in which is the Osage Field, is showing considerable activity. The Osage operation was prominently before the oil men about eight years ago, but when the major companies disposed of their holdings, drilling was confined to a number of independent companies which through the drilling of shallow wells, the construction of small refineries, and the building up of a market, and the general run of events did not get into the news of the day. Through the co-operation of the Osage Oil Producers Association (Pierre LaFleishe, chairman), and of Frank Eaton, your correspondent is in a better position to give the news of that area. In 1882 Mr. Eaton started reading the publications of the late Patrick C. Boyle, founder of the Oil City Derrick and The Oil and Gas Journal and was personally acquainted with Mr. Boyle.

Last February the Osage district again came into the limelight when the Osage Trust Co. brought in a well in the NE SE, Section 14-46-64, which made 800 bbls. in 20 hours. This company has drilled in its No. 3, NE cor. SE, Section 14-46-64, near the big producer. It encountered the sand at 1,560 feet and was drilled 2 feet into the sand. It flowed 75 bbls. in 18 hours and then was drilled 10 feet deeper and made 150 bbls. natural in the next 24 hours. James McCullough's No. 1 Logan McCullough, NW NE NE, Section 23-46-64, was dry at 1,625 feet, and Byron Gardner's No. 1 Logan McCullough, SW cor. NW, Section 24-46-64, was dry at 1,588 feet. The LaFleishe Oil Co. has a 25-bbl. well from the sand at 744-82 feet in the NE SW SW, Section 17-46-63. The Kelso Oil Co. has four completions in the shallow shale in the NE, Section 1-46-63. No. 1 is making 2 bbls.; No. 2, 3 bbls.; No. 3, 1 bbl.; and No. 4, 2 bbls. Straitiff & Curtis' No. 1 Updyke, CSL SE NE, Section 14-46-64, an offset to the north of the Jones well, missed the pay and was dry at 1,637 feet. The Osage-Wyoming Oil Co.'s No. 1 Witzell, SE NE NW, Section 30-46-64, is drilling at 1,050 feet, and Hugh Updike & Sons' No. 1, NE cor., Section 14-46-64, is drilling at 600 feet. The Osage Trust Co.'s No. 4, SW cor. NW, Section 13-46-64, is drilling at 100 feet, and its No. 5, NW cor., Section 13-46-64, is drilling at 500 feet. Two new locations ar the Omaha Syndicate's No. 1, SE cor., Section 11-47-64, and Harry Pfeiffer and others' No. 1 Mulholland, Section 29-49-64. Karl Kundy and others' No. 1, CWL NW NE, Section 31-46-63, has rig on location, and the Osage Trust Co.'s No. 3, NW cor. SW, Section 13-46-64, is drilling at 1,460 feet. The Wesco Oil Co.'s No. 5 Fee, SE NE SE, Section 13-46-64, is spudding. Dornacher and others' No. 2, CSL SE SE, Section 12-46-64, has spudded, and the Kelso Oil Co.'s No. 1 State, SE cor. NE, Section 11-46-64, is rigging up.

Salt Creek

The Midwest Refining Co.'s No. 29-DT, NW, Section 35-40-79, the test to the granite, is bottomed at 4,421 feet and has a good show of black oil believed to be coming up from the Madison lime, the next objective. It was planned to set the 6⅝-inch on top of the lime, but instead, the 8⅝-inch is being reamed and lowered. This will give a larger hole in which to go on through the Madison and test the Deadwood. One completion was reported in the Wyoming Associated's No. 1-SD-2 SE, Section 35-40-79, recompleted in the second Sundance at 2,880 feet. It made 41 bbls. the first 24 hours. The Hughes Syndicate's No. 1, SE SE, Section 10-19-78, is drilling at 1,345 feet.

Natrona County

The All-States Oil & Gas Co.'s No. 5, Section 1-36-82, North Casper Creek, which was started in a 24-inch hole to test the Madison lime, is drilling at 300 feet. The North & South Railroad has built a 2½-mile spur to this company's properties and the company will build a loading rack and start the shipment of oil under a 60,000-bbl. contract it recently made. The Wyalta Oil Co.'s No. 3, Section 11-38-78, east of Teapot, was completed at 1,055 feet and is estimated good for 25 bbls. after a shot. The Wind River Oil & Gas Co.'s No. 1 DeLong, NE SE, Section 9-38-78, west of Teapot, is

drilling at 2,900 feet and will go to the second Wall Creek at 3,300 to 3,400 feet. The Midwest Refining Co.'s No. 11 Midway, for the account of the Saltmount Oil Co., C NE NE, Section 23-35-79, is spudding at 150 feet. The conductor pipe will be set at around 300 feet and a change over to rotary tools will be made.

Carbon County

The Red Feather Oil Co.'s No. 1, SW SW, Section 35-13-92, Baggs Dome, joint with the Producers Oil & Gas Co. (C. E. Bivens and others), which resumed on May 5 after the winter shutdown, has sidetracked the joint of 8¼-inch and drilled to 2,170 feet where it has a considerable volume of new gas. The 6¼-inch is being cemented at 2,160 feet to shut off carried water preliminary to making a test of the gas horizon. This well which is a Tertiary test, had approximately 5,000,000 feet of gas at 665 feet which was cased off. The volume of gas in the deeper horizon is believed to be larger than that found above. This operation is just 3 miles north of the Colorado line. The Producers & Refiners' No. 2 Mahoney Dome, SE NW, Section 34-26-88, which showed for a producer in the Tensleep, is standing at 4,698 feet after plugging back and is running tubing for a pumping test. It has 4,000 feet of oil standing in the hole. This was the discovery well in the Tensleep and opens a new producing horizon on the Mahoney Dome. The same company's No. 8 Wertz, NE cor. NW, Section 7-26-89, Wertz Dome, has completed rigging up and is killing gas to drill deeper. This well was completed as an 80,000,000-foot gas well in the Sundance at 4,150 feet last year and is to be made into a Tensleep test. The Producers & Refiners' No. 1 O'Brien Springs, Section 11-24-88, is drilling at 1,435 feet and the Midwest Refining Co.'s No. 31 Eades, SW SE, Section 1-18-78, Dutton Creek, is cementing the 8⅝-inch at 4,038 feet. It failed to hold when cemented at 4,000 feet.

Fremont County

The Producers & Refiners' No. 2 Muskrat Dome, SE NW, Section 33-34-92, has completed rigging rotary and is ready to resume drilling at 532 feet. Its No. 10 Sand Draw, Section 14-32-95, is drilling at 2,265 feet in shale. The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is testing a stray sand at 3,730 feet. When entered, it was believed this was the Lakota, but that horizon, apparently has not yet been reached. The sand was dry and composed of chalky white and greenish gray material. The Texas Production Co.'s No. 1 State, SW SW, Section 36-34-95, Alkali Butte, is drilling at 3,434 feet with the Dakota as the next objective.

Lincoln County

The Texas Production Co. is reported to have taken leases on the Edgar Heschler and Olaf Polson ranches near Fonetenelle, in northeastern Lincoln County, and to be preparing to do some diamond core drilling to work out the structure. The Mountain States Oil Corp.'s No. 1 State, NE cor., Section 36-25½-115, Wyoming structure, is running the 15½-inch to 815 feet for a formation shutoff. The Midwest Refining Co.'s No. 1 Larcher, SE, Section 25-37-117, Little Grays River, is drilling at 1,825 feet in hard gray coarse white sand. The 10¾-inch is at 1,732 feet.

Sublet County

The California Petroleum Corp.'s No. 3-L, Section 34-27-113, La Barge, was completed at 943 feet and made 60 bbls. initial.

Sweetwater County

The Prairie Oil & Gas Co.'s No. 75-A, Section 11-26-90, a test to the Tensleep in the Little Lost Soldier Pool, is drilling in the red beds at 2,955 feet.

Park County

In the Oregon Basin Field, Charles E. Orchard's No. 7 Rue, SW cor. NW, Section 28-51-100, which has been standing at 3,752 feet on top of the Embar, is rigging up cable tools to drill in. The Oneida Oil Co.'s No. 1 Beck, SW cor., Section 28-52-100, is bottomed at 3,705 feet in lime, the top of the lime being at 3,685 feet. Pipe is being run to cement before drilling in. This well is 266 feet down structure from Charles E. Orchard's No. 1 Owen, the nearest producer. The Texas Production Co.'s No. 1 Freeman, C NW SE, Section 30-51-100, is drilling at 1,484 feet. At Frannie, the Midwest Refining Co.'s No. 31 Rosenberg, SW cor. SE, Section 24-58-98, is fishing at 1,485 feet, and its No. 31 Frannie Oil, SW cor. NE, Section 25-58-98, is drilling at 1,970 feet in soft black shale. The Resolute Oil Co.'s No. 1, SW NE, Section 17-57-101, Badger Basin, is drilling at 4,480 feet. The Cody Petroleum Co.'s No. 1 Danker, SW cor., Section 22-57-98, Polecat, is drilling at 3,340 feet and carrying the 10-inch. It is supposed to be in the Muddy sand and may go to the Tensleep at around 5,500 feet. It had 7,000,000 feet of gas in the second Frontier at 2,657-2,783 feet. The California Exploration Co.'s No. 2 Pitchfork, NW NE, Section 14-48-102, is shut down at 2,444 feet repairing boiler.

Big Horn County

The Ohio Oil Co.'s No. 1 Easton, SW NE, Section 35-56-97, Byron Dome, is bottomed at 3,094 feet and killing gas in the Embar which was topped at 3,080 feet. This well was drilled with rotary and volume of gas is not known, but in other wells on the structure the average was 30,000,000 feet with 1,400 pounds pressure. It is to be drilled deeper to explore the Tensleep, Amsden and Madison. The 10¾-inch was cemented on top of the Embar. The same company's No. 1 Union Gas, NE cor., Section 22-56-97, is standing with 6⅝-inch cemented at 5,286 feet while tanks are being erected. Cores showed saturation in the Embar. The Producers & Refiners' No. 3, NW NW, Section 24-56-98, Garland Dome, is bottomed at 4,234 feet and pulling tubing to run hell raiser in an effort to fish out tools.

Hot Springs County

The Midwest Refining Co.'s No. 8 Weeks, NW SE, Section 6-44-98, Wagonhound, is drilling at 1,825 feet in pink shale and bentonite, and the Ohio Oil Co.'s No. 1 Smith, SE NE, Section 9-46-99, Walker Dome, recemented the 8⅝-inch casing at 4,403 feet.

Sweetwater County

The Mountain Fuel Supply Co.'s No. 1 Sullivan, SW SW, Section 10-16-104, South Baxter Basin, penetrated the Sundance at 3,765 feet and found water. It is plugging back to the Dakota and recompleted as a gas well. It had 12,000,000 feet of gas in the Dakota. The Vermillion Oil Co.'s No. 1, SW cor., Section 16-12n-99, Hiawatha Dome, is drilling at 2,975 feet.

MONTANA

The Bannatyne operators are elated over present prospects. The Bannatyne Pipe Line Co. is preparing to lay a 3-inch line to the railroad, about 8 miles, and the Sterling Oil Co. is starting a refinery where the pipe line will join the railroad.

In southern Montana near Red Lodge, the Ohio Oil Co.'s deep test on the Dry Creek Dome, is past the 5,000-foot level and expects the Dakota sand and a gas well at 5,400 feet. This well is a commercial producer in the Frontier sands, but that gas has been cased off to enable drilling to the Dakota sand.

The Texas Production Co. is drilling the only active well in the Pondera Field. The hole is at 1,500 feet.

On the Grandview Dome in the Sweetgrass Hills, the Thompson wildcat No. 1 had a showing of wet gas at the top of the Ellis lime and is drilling in the Ellis lime at 2,500 feet.

The Sunburst Oil & Refining Co. has a second completion on the Bear's Den structure, the well that had about 7,000,000 feet of gas at 1,900 feet. It is an oil well at 2,374 feet and will make about 35 bbls. It is on Section 18-36-6, and while it is a commercial producer, the company has ordered the small casing string run and will drill through the Madison for a complete test of the lower sands.

About 60 miles west of Great Falls, on the Sun River structure, the Earl Oil Co. is drilling at 2,000 feet and expecting pay sand within the next 200 feet.

In the Border Field on the Canadian boundary, the Ohio Oil Co. has started spudding its first well. On the Canadian side, the Commonwealth No. 1 is drilling below 2,500 feet and should have the pay around 2,600 feet. No gas was found in the Sunburst sand.

The Alberta Pacific Consolidated's No. 1 is past the 2,000-foot level. The Dalco Oil Co.'s No. 1 is drilling at 2,300 feet. The Southern Alberta Oil Co.'s well is drilling at 1,800 feet, and the Capitol Oils, Ltd., is drilling at 1,000 feet. Devonshire's No. 1 is drilling at 1,500 feet.

On the American side, the Mid-Continent Oil Co.'s No. 2 should be in the pay next week, the Huso Oil Co. and the Kotops' No. 1 also should reach the pay shortly. Shasta Oils has reached an agreement with the Holgar interests and will complete the Holgar well.

The Dakota Montana Oil Co. is making a location on its holdings in the Border Field and the Altamount Oil Co. and the Pan American Oil Co. will start building rigs.

ROCKY MOUNTAIN PRODUCTION

Daily average pipe line runs from the various pools in the Rocky Mountain area for the week ending May 24:

WYOMING	
Salt Creek	29,430
Frannie	....
Big Muddy	2,060
Oregon Basin	4,720
Dutton	10
Elk Basin	810
Ferris	497
Grass Creek	2,490
Hamilton	660
LaBarge	2,030
Lance Creek	130
Lost Soldier	3,040
Osage	1,070
Poison Spider	1,090
Rock River	2,090
Rex Lake	....
Lander	560
Simpson Ridge	50
Teapot Dome	40
Greybull	....
Mule Creek	900
Total	51,220
MONTANA	
Cat Creek	1,170
Kevin-Sunburst	5,610
Pondera	2,510
Lake Basin	70
Total	9,360
COLORADO	
Moffat	1,002
Fort Collins	1,357
Florence	607
Iles	1,019
Tow Creek	442
Boulder	25
Rangley	50
Total	4,502
NEW MEXICO	
Hogback	340
Rattlesnake	1,137
Table Mesa	105
Artesia	613
Cap Rock (Maljamar)	995
Jal	1,477
Hobbs High	10,244
Getty	....
Lea	6,315
Miscellaneous (Lea County)	427
Total	21,653
Grand total	86,736
Grand total May 17	77,787
Difference	8,949

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 60)

C. L. Sloane et al's No. 1 B. P. Smith, Sec. 49, F.P. Knott lands ..... T.D. 5,000 ft.; C.O.

COCHRAN COUNTY

Westbrook et al's No. 1 Slaughter, 400 ft. S and E, Labour 67, League 118, Knox County School Lands .. Drlg. 5,460 ft.

COLLINGSWORTH COUNTY

Shoupe Bros.' No. 1 Aldus, 410 ft. N, 330 ft. E, Sec. 96, Blk. 16, H.&G.N.R.R. Sur. ..... Show oil and gas 1,678 ft.; bailed estimate 10 bbls. first day from G.W. 2,194-98 ft; drlg. 2,630 ft.

Shoupe Bros.' No. 1 Whitson, 330 ft. N and E, SW, Sec. 33, Blk. 12, H.&G.N.R.R. Sur. ..... Spudded and S.D.

DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. N line, 935 ft. E line, Sec. 22, Blk. E, D.&P.R.R. Sur. ..... T.D. 3,006 ft.; contract depth.

Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk. G, G.C.&S.F. Sur. ..... S.D. 4,000 ft.

GRAY COUNTY

Amalgamated German-American Oil Co.'s No. 1 Webb, 330 ft. S and W, E½ NW, Sec. 12, Blk. A-9, H.& G.N. Sur. ..... Location.

Baldridge & Lilley's No. 1 Melton, 330 ft. N and W, E½ SE, Sec. 95, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,480 ft.

Cockrell-McIlroy Oil Co.'s No. 1 Castleberry, 330 ft. S and E, Sec. 126, Blk. 3, I.&G.N. Sur. ..... S.D. 3,280 ft; T.P. 3,263 ft; swbd. 90 bbls. first 7 hrs.

Cockrell-McIlroy Oil Co.'s No. 1 Sailor, 330 ft. out of NW SW NE, Sec. 138, Blk. 3, I.&G.N. ..... S.D. 2,570 ft.

Danciger O. & R. Co.'s No. 1 Catlin et al, 175 ft. S, 300 ft. E of N 71 ac. of E 231 ac., Sec. 57, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,000 ft.

Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... S.D. 2,505 ft.

Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. S, 286 ft. E of E 39½ ac., NW, Sec. 5, Blk. 1, A.C.H.&B. Sur.... Drlg. 2,621 ft.

Empire G. & F. Co.'s No. 1-B Archer, 330 ft. each way of SW cor. SW, Sec. 139, Blk. 3, I.&G.N. Sur. ..... S.D. 3,150 ft; S.O. 3,040 ft. and 3,135 ft.

Empire G. & F. Co.'s No. 2 Hexter, C SE, Sec. 235, Blk. B0Z, H.&G.N. Sur. ..... S.D. 2,404 ft.

Empire G. & F. Co.'s No. 1 Shields, 330 ft. each way out of SE cor. NE, Sec. 151, Blk. 3, I.&G.N.R.R. Sur. ..... S.D. 3,200 ft; swbd. 182 bbls. first 17 hrs. before shot; shot 80 qts. 3,155-80 ft.

Empire G. & F. Co.'s No. 1 Whittemore, 2,310 ft. N and W, Sec. 14, Blk. 4, I.&G.N. Sur. ..... Location.

Follett Pet. Corp.'s No. 1 Hood, 330 ft. S and W of W 80 ac., SW, Sec. 32, Blk. 3, H.&G.N.R.R. Sur. ..... T.D. 3,143 ft.; C.O. after shot.

Gardner Bros. and Collins' No. 2 Saunders, 955 ft. S, 330 ft. E of W 68 ac., E½, J. G. Eustice Sur. ..... Location.

Humble O. & R. Co.'s No. 1 Young, C SW, Sec. 110, Blk. 3, I.&G.N. Sur. ..... Rigging up.

LeFlore Pet. Corp.'s No. 1 Wilson, 330 ft. N and E, Sec. 1, B.S.&F. Sur. ..... Drlg. 420 ft.

Lenix et al's No. 1 Bradford, 330 ft. N and E, W½ SE, Sec. 118, Blk. B-2, H.&G.N.R.R. Sur. ..... Drlg. 2,490 ft; 8,000,000 ft. gas 2,400 ft.

Lyon et al's No. 1-A Morse, 330 ft. S and W, NW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... Drlg. 1,814 ft.

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W cor. SE, Sec. 200, Blk. B-2, H.&T.N. Sur. ..... S.D. 1,700 ft.

Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur. ..... 9,000,000 ft. gas 2,325-35 ft; fishing 2,775 ft.

McAuley et al's No. 4 Morse, 330 ft. N and W, SE cor. NE, Sec. 2, Blk. 26, H.&G.N.R.R. Sur. ..... Rig.

McIlroy Oil Co.'s No. 1 Vallmert, 330 ft. each way out of SE cor., NW, Sec. 140, Blk. 3, I.&G.N. Sur. ..... T.D. 3,240 ft; S.O. 3,202 ft; S.G. 3,214 ft; 1,200 ft. oil in hole.

Midwest Expltn. Co. et al's No. 1 Wagoner, 1,320 ft. W, 330 ft. N, Sec. 173, Blk. 3, I.&G.N. Sur. ..... Rig.

Oil Operators' No. 1 Bowers, 330 ft. N, 330 ft. E, Sec. 93, Blk. B-2, H.&G.N. Sur. ..... Show oil and gas 2,400-17 ft.; S.O. 3,036-55 ft.; first gas 2,483 ft., increase at 2,500 ft., 2,544 ft. and 2,950 ft.; S.D. 3,090 ft.

Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... Location.
Prairie O. & G. Co.'s No. 2 Laugham, 330 ft. S and E, NW cor., W 230.3 ac. of S 310.5 ac., Sec. 1, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,915 ft; swbng. 90 bbls. oil daily; T.P. 2,742 ft.
Prairie O. & G. Co.'s No. 1 Worley, 330 ft. each way out of NW cor. NW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ... S.D. 2,856 ft; T.P. 2,783 ft; swbng. 800 bbls. oil daily.
Saulsbury et al's No. 1 Sheridan, 330 ft. S and E, W½ NE, Sec. 184, Blk. B-2, H.&G.N. Sur. ..... Drlg. 600 ft.
W. A. Scott's No. 1 Cobb, 330 ft. S, 425 ft. W, N½ SE, Sec. 184, Blk. 3, I.&G.N. Sur. ..... Drlg. 1,560 ft.
So. Pet. Expltn. Co.'s No. 1 Vaughn, 330 ft. N and W, SW, Sec. 138, Blk. 3, I.&G.N. Sur. ..... T.D. 2,500 ft; U.R. 8¼-in. csg.
Reynolds et al's No. 1 Webb, 330 ft. N, 380 ft. E, NW, Sec. 60, Blk. 25, H.&G.N.R.R. Sur. ..... Fishing 2,417 ft.
Stover and Shell's No. 1 Saunders, 990 ft. N, 330 ft. E, N 100 ac. of W 149 ac., Sec. 3, B.&B. Sur. ..... 2,000,000 ft. gas 2,670-75 ft.; T.D. 2,956 ft.; shot 60 qts.; no results; C.O.
Vulcan O. & G. Co.'s No. 1 Carpenter, 330 ft. N and W, W 80 ac., NW, Sec. 25, Blk. 25, H.&G.N.R.R. Sur. ..... Drlg. 2,570 ft.
Wilson et al's No. 1 Heaston, 330 ft. S and W, Sec. 160, Blk. B-2, H.&G.N.R.R. Sur. ..... S.D. 1,950 ft.
Wright Wilson, trustee's No. 1 Chapman, 175 ft. S and E lines, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ... S.O. 2,685 ft.; S.D. 2,800 ft.

HARTLEY COUNTY

Dana O. & G. Co.'s No. 1 Fritz, C NE, Sec. 81, Blk. 44, H.&T.C.R.R. Sur. ..... T.D. 3,828 ft; h.f.w.; will plug back for gas well.

HUTCHINSON COUNTY

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. N 160 ac., S 240 ac., Sec. 85, Blk. 46, H. &T.C. Sur. ..... S.O. and wtr. 3,010-11 ft.; S.D. 3,095 ft.
Alexander et al's No. 1 Johnson, 1,709 ft. E, 330 ft. N, N 80 ac., E½, E. T. Tomlinson Sur. ..... T.P. 2,986 ft; T.D. 2,995 ft; I.P. 10 bbls.
Continental Oil Co.'s No. 1 Johnson-E, 330 ft. N and E, SW cor. SE, Sec. 5, Blk. I, B.&B. Sur. ..... Drlg. 3,600 ft.
Danciger O. & R. Co.'s No. 1 Cheatham, 330 ft. N and E, SW SE, Sec. 38, Blk. Y, A.&B. Sur. ..... S.D. 2,450 ft.
Dixon Creek Oil Co.'s No. 2 Cheatham, 330 ft. N, 1,350 ft. W, SE cor. N½ SE, Sec. 38, Blk. Y ..... T.P. 3,074 ft; T.D. 3,076 ft; I.P. 200 bbls. oil and 50 bbls. wtr.
Dixon Creek Oil Co.'s No. 1 Johnson Bros., 50 ft. S, 330 ft. W, NE cor. E 80 ac., J. Gammon Sur. ..... S.D. 3,074 ft; T.P. 3,071 ft; I.P. 184 bbls.
Phillips Pet. Co.'s No. 1 Johnson-Burl, 330 ft. S and W, NE cor. W 240 ac., N 320 ac., Sec. 4, Blk. 1, B.&B. Sur. ..... S.D. 3,050 ft; T.P. 3,040 ft; 500 ft. oil in hole.
Phillips Pet. Co.'s No. 1 Johnson-Trammel, 930 ft. N, 330 ft. W, SE cor. W½ NW, Sec. 38, Blk. Y ..... T.D. 3,250 ft; plugging back.
Phillips Pet. Co.'s No. 1 Johnson-Mayer, 990 ft. N and 990 ft. W line, NE, Sec. 37, Blk. Y, A.&B. Sur. ... Fishing 2,955 ft.
Phillips Pet. Co.'s No. 1 Johnson-Rudy, 330 ft. W, 330 ft. S, SW SW, Sec. 30, Blk. Y, A.&B. Sur. ..... Drlg. 3,186 ft.
Phillips Pet. Co.'s No. 1 Vake (Hazel), 330 ft. N and W, Sec. 4, Blk. XO2, H.O.&B. Sur. ..... Drlg. 550 ft.
Sinclair O. & G. Co.'s No. 1 Johnson Bros., 330 ft. N, and E, NW, Sec. 32, Blk. Y, A.&B. Sur. ..... Location.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ..... Location.
Spurlock et al's No. 1-A Christian, 440 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33, Blk. Y ..... Fishing 2,250 ft.
Texarado Oil Co.'s No. 2 Stanford, 330 ft. S, 990 ft. W, NE cor., N 80 ac., S 160 ac., Sec. 83, Blk. 46, H.& T.C.R.R. Sur. ..... T.D. 3,096 ft.
Texas State Oil Co.'s No. 1 Dunaway, 330 ft. S and W, NE, Sec. 5, Blk. 2-Y, T.T.&R.R. Sur. ..... Rig.

LAMB COUNTY

Graham O. & G. Co. et al's No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... S.D. 4,408 ft.

LIPSCOMB COUNTY

Brown et al's No. 1 Box T Ranch, SW NE. Sec. 612 H.&T.C. Sur. ..... S.G. 3,760 ft; S.D. 3,890 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... S.D. 4,954 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft.; S.D. 4,167 ft.

MOORE COUNTY

Delmar Oil Co.'s No. 1 Jones, 990 ft. E, 330 ft. N, NW, Sec. 171, Blk. 3-T, T.&N.O. Sur. ..... Building rig.
Fritch O. & G. Co.'s No. 1 Lee Blvins, C N 40 ac., N 160 ac., Sec. 4, George Mahan Sur. ..... S.D. 3,212 ft.
Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. ..... Gas, estimated 15,000,000 ft. 3,050-60 ft; drlg. 3,555 ft.
Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ..... S.D. 3,080 ft.
Shamrock O. & G. Co.s No. 1 Shory, 330 ft. N and W, NE, Sec. 187, Blk. 3-T, T.&N.O. Sur. ..... Drlg. 1,440 ft.

MOTLEY COUNTY

Expltn. Co.'s No. 6 Matador, 330 ft. N line, 330 ft. E line, Sec. 132, Blk. M ..... S.D. 4,011 ft.
Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 580 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1-N Masterson, 330 ft. E, 1,320 ft. S, Sec. 17, Blk. 3, G.&M.R.R. Sur. ..... Drlg. 2,550 ft.
Texas Interstate P. L. Co.'s No. 1 Masterson, C, Sec. 37, Blk. B-10, E.L.&R.R. Sur. ..... Location.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 ... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ..... Shot 10 qts. 5,270-93 ft.; S.O. 5,288 ft.; S.D. 5,992 ft.

WHEELER COUNTY

Anderson's No. 1 Reneau, C SW NE, Sec. 98, Blk. 23, H.&G.N. Sur. ..... S.D. 725 ft.
Dunaway Bros.' No. 1 Worley, 330 ft. S and W, NE cor. NW, Sec. 39, Blk. 24, H.&G.N.R.R. Sur. ..... T.D. 2,120 ft.; 5,000,000 ft. gas 2,025-35 ft.
Four Leaf Drlg. Co.'s No. 1 Jackson, 330 ft. S and W, NE, Sec. 11, Blk. 27, H.&G.N. Sur. ..... Drlg. 2,271 ft; T.P. 2,205 ft; 1,100 ft. oil in hole.
Johnson et al's No. 2 Hicks, 890 ft. W, 990 ft. S, Sec. 49, Blk. 17, H.&G.N. Sur. ..... Drlg. 800 ft.
Lone Star Gas Co.'s No. 1 Brown, C NW NE, Sec. 53, Blk. 23, H.&G.N.R.R. Sur. ..... Location.
Lone Star Gas Co.'s No. 1 Finley, C SW NW, Sec. 66, Blk. 17, H.&G.N. Sur. ..... Rigging up.
Lone Star Gas Co.'s No. 2 Hicks (Martin), C NW NE, Sec. 52, Blk. 17, H.&G.N.R.R. Sur. ..... Location.
Lone Star Gas Co.'s No. 1 Nickell, C NW NW, Sec. 64, Blk. 17, H.&G.N.R.R. Sur. ..... Drlg. 1,590 ft.
Lone Star Gas Co.'s No. 1 Ridinger, C NW NW, Sec. 65, Blk. 17, H.&G.N. Sur. ..... Rig on ground.
McGee et al's No. 1 Jolly, C NE, Sec. 15, Blk. A-8, H.&G.N. Sur. ..... S.D. 500 ft.
Upham Gas Co.'s No. 1 Hoshor, C SE SW, Sec. 69, Blk. 17, H.&G.N. Sur. ..... Drlg. 1,840 ft; S.G. 1,684 ft.
Wischkamper et al's No. 2 Brown, C SE NE, Sec. 53, Blk. 23, H.&G.N.R.R. Sur. ..... Drlg. 1,690 ft.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 59)

CRANE COUNTY

Cranfill et al's No. 1 Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-27, Public School Land .... Top salt 505 ft.; drlg. 2,700 ft.
C. C. Duffey's No. 1 Cowden Bros., 1,280 ft. from W and 660 ft. from S of Sec. 31, Blk. 2, H.&T.C. Sur. .... Drlg. 500 ft.
Duffey et al's No. 3 Cowden Bros. et al, 2,232 ft. from W line and 200 ft. from S line, Sec. 18, Blk. X ..... Drlg. 2,290 ft.

CROCKETT COUNTY

Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur. ..... Machine.
Lewis & Daniels' No. 1 Pecos River bed, 19 yds. S and 37° E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur. ..... Shut down 1,407 ft.
Magnolia Pet. Co.'s No. 1 Hoover, 2,310 ft. from N and 330 ft. from E of Sec. 12, Blk. 1, G.C.&S.F.R.R. Sur... Top salt 660 ft.; show gas 1,851-1,950 ft.; 1 gal. oil per hr. from 2,205-10 ft.; drlg. 3,885 ft.
G. Schaul's No. 1 Bouscour Est., 330 ft. N and 2,310 ft. from W of Sec. 27, Blk. HH, G.C.&S.F. Sur. ..... Machine.
Trans-Texas Oil Co.'s No. 3 Shannon, 983 ft. from S and 1,873 ft. from E line of Sec. 42, T.C.R.R. Sur. ... Top salt 1,235 ft.; shut down 2,535 ft.; top pay 2,534 ft.; hole filled with oil first 13 hrs.

CULBERSON COUNTY

Grisham & Hunter Corp.'s No. 1 Garren, 2,310 ft. from S and 330 ft. from E of Sec. 18, Blk. 89, P.S.L. Sur. . Shut down 2,514 ft.
Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W, Sec. 20, Blk. 82 ..... Small show oil 1,331 ft.; shut down 2,907 ft.
Kornrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land ..... Shut down 235 ft.
West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81 ..... Slight show oil 740 ft.; shut down 875 ft.; may abandon.
Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E, Sec. 1, Blk. 97, Public School Land ..... Oil show 2,528 ft.; shut down 3,508 ft.

ECTOR COUNTY

Amerada and Skelly's No. 1-B University, 990 ft. from S and 440 ft. from E line, Sec. 2, Blk. 35, University Land ..... Fishing 1,420 ft.; top salt 1,137 ft.
Cosden Oil Co.'s No. 2 University-B, 2,310 ft. S and 440 ft. W of NE cor. of Sec. 2, Blk. 35, University Land ..... Drlg. 3,390 ft.
C. P. Davis et al's No. 1 Hendricks, C SW, Sec. 46, Blk. 42, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 3,200 ft.
Gulf Prod. Co.'s No. 2 State, 330 ft. S and 440 ft. W of NE cor. S 160 acres, Sec. 1, Blk. 35, University Land.. Top brown lime 3,120 ft.; drlg. 3,700 ft.; produced 1,090 bbls. in 24 hrs.
Gulf Prod. Co.'s No. 2 State-A, 330 ft. N and 440 ft. W of SE cor. N half S half, Sec. 2, Blk. 35, University. Drlg. 3,465 ft.
Humble Oil & Ref. Co.'s No. 8 Kloh-D, 986 ft. N and 440 ft. E of SW cor., Sec. 7, Twp. 3s, Blk. 44, T.&P. Sur. ..... Drlg. 3,312 ft.
Humble Oil & Ref. Co.'s No. 7 York, 1,650 ft. N and 440 ft. E of SW cor., Sec. 16, Blk. 44, Twp. 3s ..... Drlg. 3,373 ft.
Independent Oil & Gas Co.'s No. 1 Eidson, 1,350 ft. S and 2,144 ft. E of NW cor., Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur. ..... Shut down 3,800 ft.; shot 240 qts. from 3,690-3,755 ft.; filled up 1,300 ft. with oil 18 hrs. after shot; swabbed down and tested three-fourths bailer of oil per hour.
H. F. Wurts' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M.M.Br.&A. Sur. ..... Spudding 100 ft.
T. P. Coal & Oil Co.'s No. 1 McKenzie, 1,650 ft. from S and 330 ft. from E of Sec. 282, Blk. 45, Twp. 3s, T.&P. Sur. ..... Shut down 3,870 ft.; plugged back to 3,775 ft.; shot 210 qts. from 3,720-75 ft.; swabbed 45 bbls. in 8 hrs.; now swabbing 1 bbl. per hour.
Transcontinental Oil Co.'s No. 1 University, 1,650 ft. from N and 440 ft. from E line of Sec. 3, Blk. 35, University Land ..... Drlg. 2,810 ft.
R. R. Penn et al's No. 1 Goodman et al, 2,640 ft. N and 330 ft. W of SE cor., Sec. 27, Blk. 44, T.&P.R.R. Sur.. Rigging up.
Skelly Oil Co.'s No. 2-A University, 330 ft. S and 440 ft. W of NE cor., Sec. 1, Blk. 35, University Land . Drlg. 3,706 ft.; top pay 3,640 ft.; averaging 735 bbls. daily.
Skelly Oil Co. and Republic Prod. Co.'s No. 1 McKenzie, 990 ft. from S line and 330 ft. from E line of Sec. 28, Blk. 45, Twp. 2s, T.&P. Sur. ..... Drlg. 1,625 ft.; top salt 1,010 ft.
Sunray Oil Co. et al's No. 1 Jones, 2,330 ft. from N and 440 ft. from E of Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur.. Drlg. 710 ft.
The Texas Company's No. 7 Connell, 2,310 ft. from S and 440 ft. from W, Sec. 1, Blk. B-16, Public School Land ..... Drlg. 3,330 ft.; slight show gas 3,295 ft.

EL PASO COUNTY

Lane-The Texas Company's No. 1 Malone, 2,110 ft. from SW and NW of Sec. 46, J. M. Day Sur. ..... Shut down 1,722 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 2 Willingham, 330 ft. from N and E of NW, Sec. 199, B.B.B.&C.R.R. Sur. ..... Pulling big pipe; total depth 3,078 ft.
Cranfill & Reynolds' No. 2 Barrett, 330 ft. from N and W of NE, Sec. 199, B.B.B.&C. Sur. ..... Rig on ground.
Cranfill & Reynolds' No. 2 Flannigan, 330 ft. from S and E of W half of Sec. 200, B.B.B.&C.R.R. Sur. ..... Rig on ground.
Mid-West's No. 1 Decker, 330 ft. from S and W of W 80 ac. of N 160, Sec. 8, Richardson Sur. ..... Location.
Roeser & Pendleton's No. 1 Steele, 660 ft. from N and 440 ft. from W of N half of SW, Sec. 210, B.B.B.&C. Sur. ..... Rigging up.
The Texas Company's No. 1-A Teagarden, 150 ft. from S and 420 ft. from E of Sec. 8, Richardson Sur. ..... Rigging up.

GAINES COUNTY

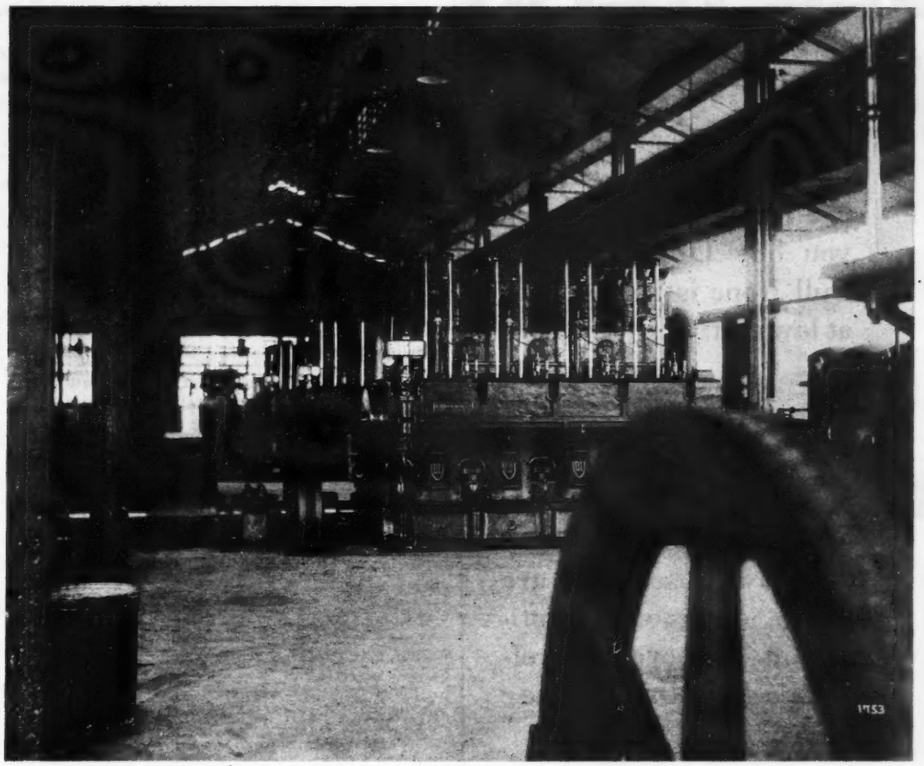
Humble Oil & Ref. Co.'s No. 1 Carswell, 660 ft. S and E of NW cor. of Sec. 23, Blk. A-27, Public School Land. Underreaming casing; total depth 1,295 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 6, H.&G.N. Sur. ..... Spudded and shut down.
Richard's No. 1 Stoker, 330 ft. from N and W, Sec. 2, Blk. 2, G.H.&H. Sur. ..... Fishing 540 ft.

GLASSCOCK COUNTY

Associated Oil Co.'s No. 1 Coffee, 2,310 ft. E and 330 ft. from S of Sec. 27, Blk. 33, Twp. 2s, T.&P. Sur. ..... Location.
California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 2,132 ft.
California Co.'s No. 2 Baker, 2,970 ft. S and 1,650 ft. E, parallel to section lines of NW cor., Sec. 23, Blk. 32, Twp. 2s, T.&P. Sur. ..... Location.
Kirby Pet. Co. et al's No. 2 Phillips, 990 ft. S and 2,310 ft. E of NW cor., Sec. 23, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ..... Top pay 2,137 ft.; total depth 2,144 ft.; 650 ft. oil in hole.
Kirby Pet. Co. et al's No. 3 Phillips, 1,650 ft. S and 2,310 ft. E of NW cor., Sec. 23, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Fishing 2,255 ft.; top pay 2,145 ft.; 1,500 ft. oil in hole.



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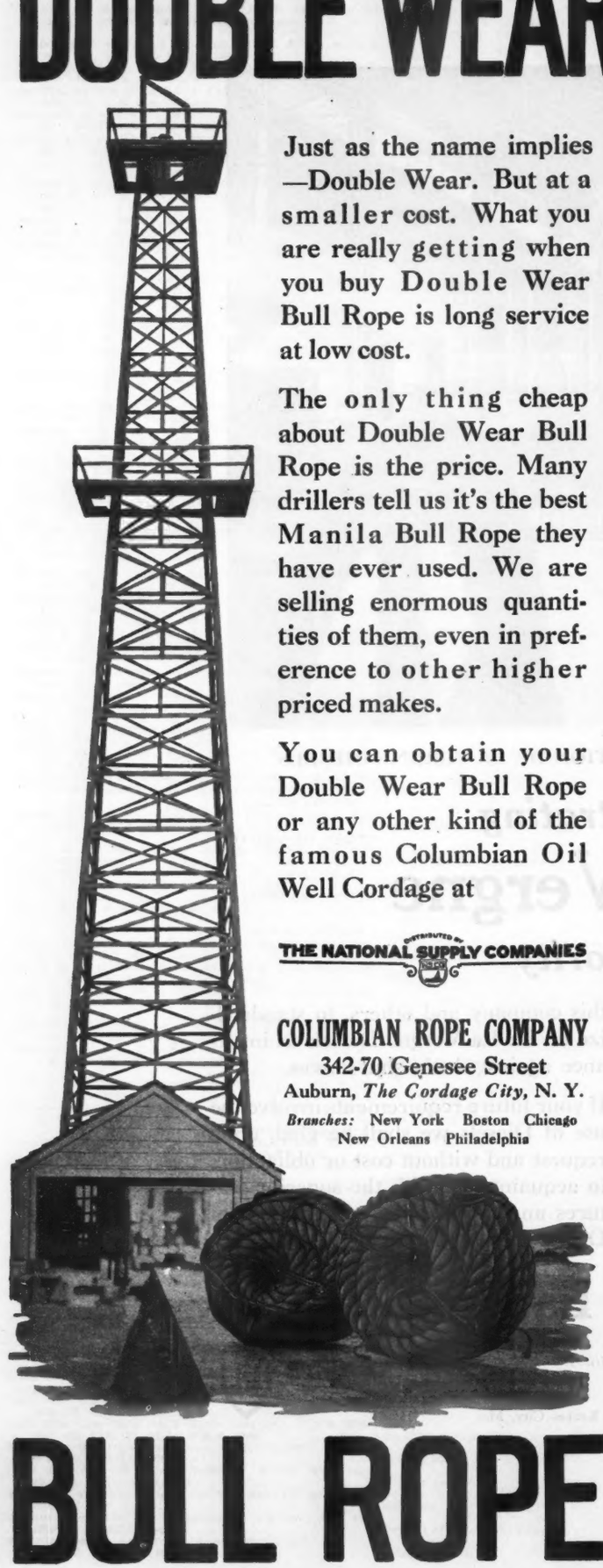

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BULL ROPE

Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.P. Sur.... Show oil 970 ft.; drlg. 2,993 ft.; will run tubing and test show of oil from 2,987 ft.

World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor., Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur.... Rig.

World Oil Co.'s No. 1 Edwards, 330 ft. from S line and 2,310 ft. from W line of Sec. 13, Blk. 34, Twp. 2s, T.&P. Sur. .... Cleaning out 880 ft.

HOWARD COUNTY

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor., Sec. 129, Blk. 29, W.&N.W.R.R. Sur. .... Sulphur water 1,433-46 ft.; shut down 1,456 ft.

McGinley-Sigler's No. 1 Hyman-C, 330 ft. N and 990 ft. W SE cor., Sec. 93, Blk. 29, W.&N.W.R.R. Sur. .... Location.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 .... Shut down 2,540 ft.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 .... Shut down 261 ft.

Sinclair O. & G. Co.'s No. 1 Montgomery et al, 2,310 ft. from N and W of Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur. .... Drlg. 2,100 ft.

HUDSPETH COUNTY

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. B .... Slight oil show 4,021-23 ft.; drlg. 4,658 ft.

Western States Oil Co.'s No. 1 Moore, C SE, Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. .... Shut down 2,760 ft.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 .... Fishing 3,155 ft.

IRION COUNTY

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Su'd, 8 .... Shut down 1,105 ft.

Fox et al's No. 3 Tankersley, 1,520 ft. from S and 450 ft. from E of Sec. 712, F. Willig Sur. .... Show oil 1,318 ft.; total depth 1,335 ft.; pumped 25 bbls. in 18 hrs.

Glenn et al's No. 1 Tankersley, NW cor. SW, Sec. 4, G.C.&S.F.R.R. Sur. .... Drlg. 925 ft.

Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE, Sec. 19, Blk. 7, H.&T.C. Sur. .... Show gas 7,656 ft.; encountered 1,400 ft. sulphur water 7,818 ft., plugged back to 6,700 ft.; cleaning out; swabs 3 bbls. oil daily.

P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County .... Show oil 7,931 ft.; shut down 8,890 ft.; may drill deeper.

Straughan and Texannati Oil Co.'s No. 1 Nutt, 150 ft. N and E of NW NW, Blk. 6, Gonzales County School Land .... Shut down 655 ft.

JONES COUNTY

Mid-Tex Oil Co.'s No. 1 King, 330 ft. E of river and 800 ft. S of N line, Subd. 1, Sec. 197, M. Bueno Sur.... Topped sand 1,980 ft.; putting on pump.

Shabeen et al's No. 1 King .... 800 ft. fluid in hole; shut down 2,204 ft.; top pay 2,061 ft.; cleaning out after shot.

KENT COUNTY

White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. H. H.&T.B. Sur.... Shut down 273 ft.

LAMB COUNTY

Graham Oil & Gas Co.'s No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. .... Shut down 4,428 ft.

LOVING COUNTY

California Co.'s No. 1 Reagan & McKlvain, 330 ft. SW of NE line and 330 ft. SE of NW line, Sec. 84, Blk. 1, W.&N.W.R.R. Sur. .... Drlg. 4,200 ft.

Dixie and Phillips Pet.'s No. 1 Johnson, 1,320 ft. from N and E of Sec. 38, Blk. 54, Twp. 2s, T.&P. Sur. .... Drlg. 990 ft.

Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. .... Shut down 3,383 ft.

Hadlock et al's No. 2 Russell, 1,650 ft. SW of NE line, 2,310 ft. NW of SE line, Sec. 80, Blk. 1, W.&N.W. R.R. Sur. .... Rigging up and shut down.

Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. .... Spudded 140 ft.; shut down.

Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C.R.R. Sur.... Rigged up.

Lockhart's No. 1 Wheat & Ramsey, 440 ft. from NE and NW of Sec. 83, Blk. 1, W.&N.W. Sur. .... Drlg. 4,119 ft.

Miller et al's No. 1 Chapman, 225 ft. from NW and 285 ft. from SW line, Sec. 71, Blk. 1, W.&N.W. Sur. .... Rigging up.

Rush et al's No. 1 Wheat, 1,650 ft. from NW and 330 ft. from SW of Sec. 85, Blk. 1, W.&N.W. Sur. .... Location.

LYNN COUNTY

Lubewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W, Sec. 10, Blk. 7, E.L.R.R. Sur. .... Shut down 190 ft. for casing.

George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. .... Top salt 2,140 ft.; oil show 1,580-90-ft.; hole full sulphur water 4,730 ft.; shut down 5,040 ft.

MENARD COUNTY

Panhandle Ref. Co. et al's No. 2 Eckhart, 1,320 ft. from W and 1,320 ft. from S of Sec. 10, Blk. 2, T.W.N.G. Sur. .... Location.

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. .... Drlg. 2,015 ft.

MIDLAND COUNTY

Pure Oil Co.'s No. 1 Hutt, 2,310 ft. from S and 330 ft. from E of Sec. 14, Blk. 38, Twp. 4s, T.&P. Sur. .... Drlg. 2,250 ft.; top salt 1,750 ft.

MITCHELL COUNTY

Gant & Teas' No. 1 Handley, 330 ft. S and W parallel to section lines of NE cor. of SE, Sec. 12, Blk. 28, Twp. 1n, T.&P. Sur. .... Drlg. 110 ft.

Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. .... Total depth 3,112 ft.; top pay 3,038 ft.; 1,000 ft. oil in hole; swabbing 40 bbls. in 24 hrs.

PECOS COUNTY

Atlantic O. P. Co.'s No. 1 Shearer, 330 ft. from NW and SW, Sec. 107, Blk. 10, H.T.N.R.R. Sur. .... Show oil and gas 1,052 ft.; and 1,170 ft.; top pay 1,438 ft.; plugged back 1,450 ft.; putting on pump.

California Co.'s No. 1 Jasper Co. Realty Co., 165 ft. from NE line and 159 ft. from SE line of California Co.'s 160 acres, Sec. 21, Blk. 10, H.&G.N.R.R. Sur. .... Show oil 1,340 ft.; shut down 1,620 ft.; first oil at 1,545 ft.; increase at 1,590 ft.; spraying little oil with gas.

Crosby Prod. & Ref. Co.'s No. 1 Cordova, 330 ft. from N and E of S 320 ac., Sec. 11, H.&G.N. Sur. .... Top salt 725 ft.; shut down 2,000 ft.

Cromwell et al's No. 1 University, 1,980 ft. from S and 2,310 ft. from E, Sec. 16, Blk. 16 .... Shut down 1,985 ft.

Fisher & Lowrie's No. 1 Webb, C, Sec. 3, Blk. 203, Tillman & Walters Sur. .... Shut down 1,725 ft.

Hayes et al's No. 1 Lea, C NW of NE, Sec. 9, Blk. 106, T.&St.L. Sur. .... Location.

Humble Oil & Ref. Co.'s No. 1 Kokernot, 1,320 ft. from N line and 1,467 ft. from W line of Sec. 227, Blk. 10, G.H.&S.A. Sur. .... Drlg. 360 ft.

Independent Oil & Gas Co.'s No. 1 Jasper County School Land, 1,160 ft. from SE line, 160 ft. from NE line, Sec. 21, Blk. 10, H.&G.N.R.R. Sur. .... Shut down 1,585 ft.; 25,000,000 ft. gas at 1,555 ft.; spraying 8 bbls. per day.

Husaman Oil Co.'s No. 1 Esters, 960 ft. from N and 990 ft. E, Sec. 33, Blk. OW, T.M.R.R. Sur. ..... Fishing 1,680 ft.

Martin A. Meyer et al's (formerly Mauch & Kroger) No. 1 Holmes, S half SW, Sec. 5, Blk. 178, T.C. Sur. .... Drlg. 2,429 ft.

Messenger et al's No. 1 Byrne, 2,130 ft. from NW line, 1,830 ft. from SW line, Sec. 54, Blk. 10, H.&G.N.R.R. Sur. ..... Show oil 1,298 ft.; shut down 1,327 ft.; putting on pump.

Messenger et al's No. 2 Byrne, 2,490 ft. from NE and SE of Sec. 54, Blk. 10, H.&G.N. Sur. ..... Spudded and shut down.

J. R. Miller et al's No. 1 Bennett, 359 ft. W from CWL, Sec. 1, Blk. 119, G.C.&S.F. Sur. ..... Drlg. 180 ft.

J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.&C.S.F. Sur. ..... Top pay 1,089 ft.; 700 ft. fluid in hole; fishing 1,160 ft.

J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Show oil 1,785 ft.; shut down 2,206 ft.

Oregon Oil Corp.'s No. 2 Yates, 150 ft. from S and W of Sec. 58, Blk. 1, I.&G.N. ..... Rigging up.

Peren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C. Sur. ..... Shut down 1,075 ft.

R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C.R.R. Sur. ..... Spudded and shut down.

Phillips Pet. Corp.'s No. 3 Monroe, 3,860 ft. from N and 660 ft. from E, Sec. 39, Blk. 194, G.C.&S.F. ..... Cellar.

Riser & White's No. 1 Riser, 2,297 ft. from S and 997 ft. from E of Sec. 24, Blk. 12, H.&G.N. Sur. ..... Location.

Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Drlg. 2,065 ft.

Southern Crude Oil Pur. Co.'s No. 2 Eaton, 2,310 ft. from SW and SE, Sec. 25, Blk. 3, H.&T.C. Sur. ..... Location.

The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor., Sec. 9, Blk. 131, T.&S.T.L. Sur. ..... Drlg. 3,016 ft.

Transcontinental Oil Co.'s No. 1 University, 1,980 ft. N and E of SW cor., Sec. 18, Blk. 18, University Land.. Total depth 4,910 ft.

Transcontinental Oil Co. et al's No. 3 Sellman, 330 ft. from S and E, Sec. 7, Blk. Z, T.C.Ry. Sur. ..... Shut down 1,998 ft.; 400 ft. oil in hole; top pay 1,900 ft.; plugged back to shut off water; shot 10 qts. from 1,900-13 ft.; flowed 15 bbls. first 12 hrs. (no water).

Transcontinental Oil Co. et al's No. 1-A Sellman, 340 ft. from N and 330 ft. from E of SE, Sec. 12, Blk. 194, G.C.&S.F. Sur. ..... Shut down 1,901 ft.; top pay 1,881 ft.; swabbing 20 bbls. per day.

W. F. Walsh et al's No. 1 Scharbaur Cattle Co., 330 ft. S and 990 ft. E from C, Sec. 16, Blk. 136, T.&St. R.R. Sur. ..... Fishing 1,640 ft.

Walsh et al's No. 1 Shearer, 330 ft. from NE and NW of E, Sec. 89, Blk. 10, H.&G.N.R.R. Sur. ..... Shut down for machine.

Warner's No. 1 Webb, 2,550 ft. from NW and 6,100 ft. from NE of Sec. 311, Abst. 756, C. McGinley Sur. .... Location.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N and 1,188 ft. from E lines of Sec. 245, Blk. 4 ..... Drlg. 720 ft.; reported drlg. 1,635 ft. in error.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land.. Top pay 2,903 ft.; top pay 6,807 ft.; shut down 8,654 ft.

Beasley et al's No. 1 Sawyer Cattle Co., 1,320 ft. from N and 3,960 ft. from E, Sec. 8, J. G. Robinson Sur., elevation 2,586 ft. Location.

Hagan & Emeh and Amerada's No. 1 Sawyer Cattle Co., 330 ft. from S and 990 ft. from E lines of Sec. 125, Blk. 1, T.&P. Sur. ..... Shut down 2,850 ft.

Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Showing oil and gas at 8,220 ft.; total depth 8,220 ft.; flowing average 125 bbls. daily.

Big Lake Oil Co.'s No. 5-C University, 625 ft. from S and 250 ft. from W of Sec. 25, Blk. 9 ..... Rig.

Texon Oil & Land Co.'s No. 2-B University, 4,655 ft. from S, 250 ft. from W, Sec. 36, Blk. 9 ..... Top pay 8,131 ft.; flowed 75 bbls. per day for 6 days; drlg. 8,435 ft.

Texon Oil & Land Co.'s No. 3-B University, 2,240 ft. from S, 920 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 7,900 ft.

Westyde Investment Co.'s No. 1 Scott, 1,280 ft. N and 1,320 ft. from W, Sec. 177, Blk. 1, T.&P. Sur. ..... Location.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor., Sec. 26, Blk. C-13, Public School Land, elev. 2,847 ft. ..... Shut down 2,900 ft.

H. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 59 ..... Shut down 1,860 ft.; show oil 1,820 ft.; cleaning out after two shots; filled up 200 ft. with oil.

Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur... Shut down 3,575 ft.

David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Shut down 5,658 ft.

California Co.'s No. 1 Kloh & Rumsey, 1,650 ft. from S and E of Sec. 13, Blk. 54, Twp. 4, T.&P. Sur. ..... Shut down 932 ft.

RUNNELS COUNTY

Gibson & Johnson's No. 1 Johnson, 2,310 ft. N and 1,650 ft. W of SE cor., Sec. 150, E.T.R.R. Sur. ..... Total depth 2,415 ft.

Gibson & Johnson's No. 2 Serratt, 2,310 ft. from S and 1,650 ft. from E of Sec. 150, E.T.R.R. Sur. ..... Derrick.

George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E, Sec. 262 ..... Show oil 2,028 ft.; shut down 2,604 ft.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW, Sec. 56, Blk. 1, G.H.&S.A.R.R. Sur. ..... Shut down 3,330 ft.

Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Shut down 6,305 ft.

Teas & Gant's No. 1 Allison, 1,320 ft. N and E of SW cor. of Sec. 37, Blk. K, G.H.&S.A.R.R. Sur. ..... Fishing 1,315 ft.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ..... Drlg. and cleaning out 4,760 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 330 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Show oil 1,750 ft.; top pay 1,750 ft.; estimate 10 bbls. on pump; 1,200 ft. oil in hole; drlg. deeper 2,615 ft.

Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R. R. Sur. ..... Drlg. 4,269 ft.

I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. ..... Spudded and shut down 300 ft.

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Total depth 4,400 ft.

Transcontinental Oil Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. ..... Cleaning out and underreaming; total depth 1,005 ft.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Wilson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

TAYLOR COUNTY

Condor Pet. Co.'s No. 1 Stoker, C of NW, Sec. 220, Blk. 64, H.T.C.R.R. Sur. ..... Underreaming 8¼-in. casing; total depth 2,795 ft.

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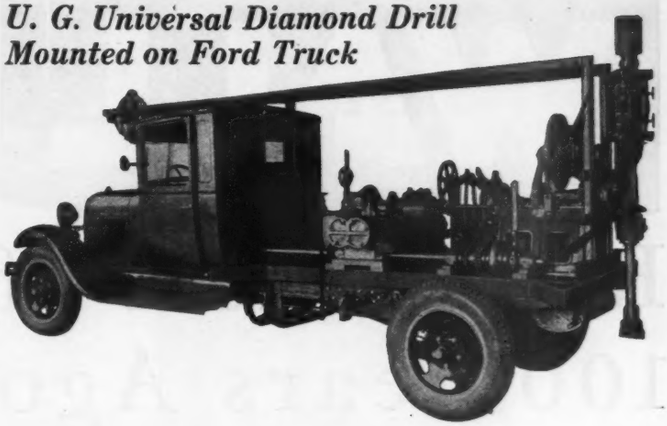

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Eastland Oil Co. et al's No. 1 Teaff, 150 ft. from N and W of N 109-acre farm of 219-acre tract, W. Avery Sur. ..... Rigging up.

A. H. Gibson et al's No. 1 Cody, 888 ft. N and 160 ft. W of SE cor., Lot 2, Sec. 18, Guadalupe County School Land ..... Plugged back 2,396 ft. and shot 60 qts. 2,374-93 ft.; cleaning out; shut down 2,467 ft.; top pay 2,370 ft.; 1,200 ft. oil in hole; pay 2,370-77 and 2,394-95 ft.; rerunning tubing to test.

Gibson & Johnson's No. 1 Bingham, 330 ft. N and E of SW cor. their 270.8-ac. tract, Sec. 31, Guadalupe County School Land ..... Underreaming 6¾-in. casing; total depth 2,412 ft.

John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; shut down 5,927 ft.

Hucony Oil Co. et al's No. 1 Richie, C SE Sec. 10, Blk. A, S.P.R.R. Sur. ..... Fishing 1,035 ft.

Mid-Continent Pet. Corp.'s No. 1 Lindsey, 239 ft. N and 219 ft. E of SW cor., Subd. 22, Guadalupe County School Land ..... 300 ft. oil in hole; top pay 2,376 ft.; drlg. 2,414 ft.; show gas 2,408 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Drlg. 1,895 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C, Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.

Miller Bros.' No. 1 Allison & Burke, C NW cor., Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.

Mrs. J. B. McPhees' No. 1 Sam Belt, C, Sec. 78, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.; moved out machine.

Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. ..... Drlg. 3,810 ft.

Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 640 ft.

TERRY COUNTY

Atlantic et al's No. 1 Carlisle, 990 ft. from S and E of Sec. 58, Blk. E, E.L.&R.R. Sur. ..... Shut down 3,322 ft.

TOM GREEN COUNTY

Cosden Oil Co.'s No. 1 William Anson, 2,310 ft. S, 330 ft. W of NE cor., Sec. 20, Blk. 24, H.T.C.R.R. Sur. ..... Spudded

Ellis' No. 3 Lewis, 1,350 ft. S and 450 ft. E of SW cor. Jas. Webb Sur. 77 but in Albert Black Sur. 75 ..... Shut down 485 ft.; show oil 390 ft.

Fitzgerald & Taliaferro's No. 1 Bennett, C SW, Sec. 1,628, E. H. Ringer Sur. ..... Plugged back to 2,405 ft. to straighten hole; shut down 2,447 ft.

Phillips Pet. Corp.'s No. 1 Gulden, 1,250 ft. from N and 1,583 ft. W of Sec. 77, James Webb. Sur. ..... Drlg. 2,440 ft.

E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N, Sec. 6, Blind Asylum Land ..... Show oil 418-20 ft.; total depth 632 ft.

UPTON COUNTY

Cordova Union Land Co.'s No. 1 fee, 330 ft. from S and E line of Sec. 1, Blk. 1, M.-K.-T.R.R. Sur. ..... Location.

Eppenauer Drlg. Co.'s No. 1 Chaney, 2,310 ft. from N and 330 ft. from W of Sec. 18, Blk. 3, M.-K.-T. Sur. Top pay 2,290 ft.; total depth 2,400 ft.; plugged back to 2,382 ft.; shot 250 qts. from 2,365-90 ft.; 700 ft. fluid in hole; running tubing.

Gulf Prod. Co.'s No. 3-B Hughes, 160 ft. N and 161 ft. W of most southerly SE cor. of its 200-ac. lease "B" out of Wm. Teer Sur. ..... Rig.

Pure Oil Co.'s No. 3 Hughes, 150 ft. S and 767 ft. E of NW of their 300 ac., Sec. 4, Wm. Teer Sur. ..... Partly rigged up; shut down.

VAL VERDE COUNTY

A. Bluhm's No. 1 Yoast, 1,760 ft. N, 600 ft. W of SE cor., Sec. 31, Blk. 3, I.&G.N. Sur. ..... Machine on ground.

Independent Operators' No. 1 Whitehead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.

O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,700 ft. gas; drlg. by tools 5,757 ft.

Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 33, Blk. D-8, E.L.&R.R. Sur. Show oil 1,525 ft.; fishing 3,035 ft.

Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y ..... Shut down 4,009 ft.

WARD COUNTY

Dearborn et al's No. 1 Boogher, 1,375 ft. NE and 785 ft. SE of N cor., Sec. 7, Blk. 32, but in Sec. 11, Blk. 5, H.&T.C.R.R. Sur. ..... Drlg. 2,173 ft.

Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW, Sec. 18, Blk. 5, H.&T.C. Sur. Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.; salt water 2,545 ft.; plugged back to 2,477 ft.

R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C.R.R. Sur. ..... Shut down 380 ft.

Tex-Oil Prod. Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C.R.R. Sur. ..... Show gas 2,806-09 ft.; shut down 5,077 ft.

Richardson et al's No. 2 O'Brien, 322 ft. from N and 1,020 ft. from W of Sec. 5, Blk. F, G.M.M.B.&A. Sur. Top pay 2,550 ft.; total depth 2,756 ft.; preparing to test.

Shipley et al's No. 5 Hayzlett, assume ccommon line Secs. 16 and 17, is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ..... Standard rig.

Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 ..... Drlg. 700 ft.

J. E. Smith's No. 1 Clement, 152 ft. SW of NE line and 153 ft. SE of NW line, Lot 7, Sec. 7, Blk. 32, H.&T.C.R.R. Sur. ..... Top salt 745 ft.; drlg. 1,370 ft.

Sturm & Paine's No. 1 Cummins, 748 ft. from NE and 155 ft. from NW of Sec. 7, Blk. 32, H.&T.C.R.R. Sur. Shut down 2,350 ft.; show oil and gas 2,170 ft.; not flowing; made 125-bbl. head after standing 30 days.

Sun Oil Co.'s No. 1 Sealy, 330 ft. from N and E of Sec. 88, Blk. F, G.M.M.B.&A. Sur. ..... Shut down 2,575 ft.

WINKLER COUNTY

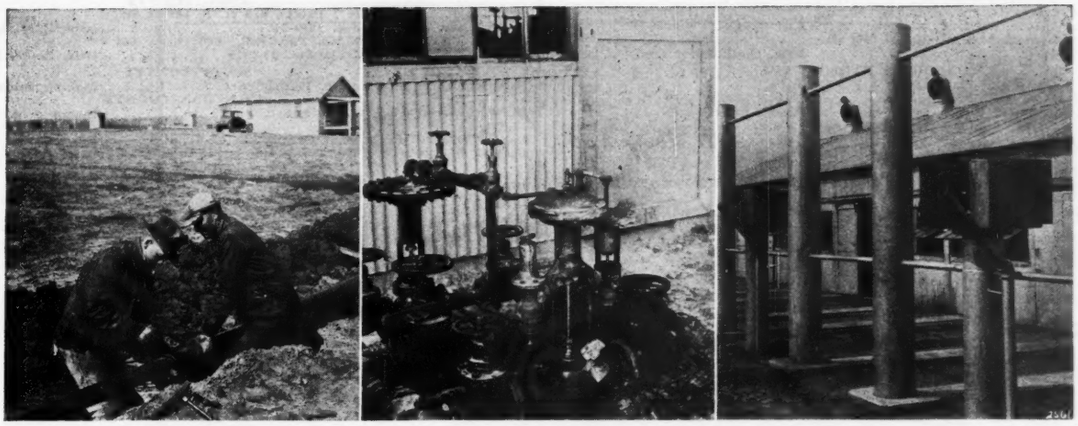
A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; shut down 2,832 ft.; show oil 2,775-85 ft.

Liner Drlg Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Show oil 3,670-79 ft.; shot 10 qts. from 3,670-79 ft.; no results; drlg. 3,752 ft.

Shell and The Texas Company's No. 1-B Cowden, 660 ft. from S and W of Sec. 39, Blk. B-5, Public School Land ..... First gas 2,290 ft.; increase 2,580 ft.; total 3,500,000 ft. gas (estimated); fishing 2,852 ft.

Shell et al's No. 8 Scarborough, 1,020 ft. from N and 1,650 ft. from E of Sec. 2, Blk. 77, Public School Land ..... Top pay 2,982 ft.; drlg. 3,188 ft.; flowing 20 bbls. per day.

Simms Oil Co.'s No. 1 Sealy, C of SE Sec. 49, Blk. F, G.M.M.B&A. Sur. ..... Location.



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WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 48)

CATAHOULA PARISH

National O. & G. Co.'s No. 1 Kirkland, 585 ft. E, 495 ft. N, SW cor., Sec. 35-9-1n.....Began drlg. May 10; cmtd. 10-in. 160 ft.

CLAIBORNE PARISH

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7.....S.D. 2,240 ft.
Leue Oil Co.'s No. 1 Taylor, 1,153 ft. S, 360 ft. W, C, Sec. 16-22-6.....S.D. 2,864 ft.
Triangle Drlg. Co.'s No. 2 Caskey, 660 ft. N, 660 ft. W, SE cor., Sec. 6-19-5.....Drlg. chalk 2,350 ft.

CONCORDIA PARISH

A. C. Glassell's No. 1 Pittsfield Plantation, N 9°, E 1,320 ft., SW cor., Sec. 41-8-10.....Drlg. 1,300 ft.
Joe Man et al's No. 1 Maxwell, C, Sec. 35-3n-8e.....Drlg. 2,820 ft.

DE SOTO PARISH

Benson Oil Co.'s No. 1 Harris, Sec. 6-10-13.....Tested dry; show gas; W.O. 2,650 ft.
Odell & Lawton's (was L. A. Crump's) No. 1 Harris, 300 ft. N, 300 ft. E, SW cor. NW SE, Sec. 11-13-14..Cleaning out 800 ft.; T.D. 3,140 ft.
Bud Harrell's No. 1 Horton, 450 ft. E, 150 ft. N, SW cor., Sec. 4-11-11.....Began drlg. Apr. 30; cmtd. 10-in. 130 ft.; S.D. 350 ft.
H. L. Hunt's No. 1 Furman, Sec. 5-14-13.....Rig up.
R. O. Roy's No. 1 Nelson, 660 ft. S, 660 ft. E, NW. cor., Sec. 36-15-13.....Rig up.

FRANKLIN PARISH

Davis et al's No. 1 Moore, 600 ft. W, 200 ft. S, NE cor., Sec. 12-11-6.....S.D. 1,430 ft.
Evansville Inv. Co.'s No. 1 W. B. Welch, 945 ft. E, 511 ft. N, SW cor., Sec. 2-14-8.....Drlg. hard lime 4,266 ft.

JACKSON PARISH

El Dorado Chief O. & G. Co.'s No. 1 Sou. Advance Paper Bag Co., 225 ft. N, 275 ft. E, SW cor. SW NE, Sec. 35-15-4.....Rig up.

LINCOLN PARISH

Ark. Fuel Oil Co.'s No. 1 Lewis & Co., 300 ft. N, 300 ft. W, SE cor. NW SE, Sec. 26-20-4.....Derrick.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10.....Began drlg. May 3; cmtd. 12½-in. 150 ft.; S.D. for title work.
S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6.....Tested 1,000,000 ft. gas and S.W. 3 ft.; S.D. for orders; T.D. 2,526 ft.
Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9.....S.D. 1,600 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-2e.....S.D. for fuel 2,650 ft.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. E, NW cor., Sec. 32-14-10.....Tested S.W. and show oil 6 ft. sand 1,700 ft.; W.O.
E. C. Lucas' No. 1 La. Pecan Co., Sec. 26-13-11.....S.D.; W.O. 782 ft.

RICHLAND PARISH

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor., Sec. 13-17-5.....Derrick.
Austin & McDonald's No. 2 Millsaps, SW cor., Sec. 17-17-6.....Waiting orders; T.D. 2,657 ft.
Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor., Sec. 16-17-6.....Tested S.W.; W.O. 2,477 ft.
Austin & McDonald's No. 4 Millsaps, NW cor., Sec. 16-17-6.....Location.
Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor., Sec. 8-17-6.....Derrick.
W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor., Sec. 6-16-7.....Derrick.

SABINE PARISH

Longoria et al's No. 1 Belton, 330 ft. S, 330 ft. E, C, NE, Sec. 31-9-13.....Rig up.
Loring Oil Co.'s No. 1 Peavy-Wilson Lbr. Co., 200 ft. S, 330 ft. W, NE cor. SW NE, Sec. 21-6-13.....Cored gumbo 1,965 ft.
Lohman et al's No. 1 Wyatt Lbr. Co., 150 ft. S, 330 ft. E, NW cor. NE SW, Sec. 18-4-11.....Derrick.
J. C. McDaniel & Lieber's No. 1 Batson, 675 ft. N, 318 ft. E, SW cor. SE, Sec. 16-18-12.....Arranging to cmt. 8¼-in. 2,304 ft.
Paramount O. & G. Co.'s No. 1 Woolems, 330 ft. N, 330 ft. W, SE cor. NE NW, Sec. 11-6-12.....S.D. 1,656 ft.
Pelican O. & G. Co.'s No. 1 La. Long Leaf Lbr. Co., 215 ft. N, 30 ft. E, SW cor. NW SE, Sec. 4-7-11.....150 ft. oil in hole; T.D. 2,425 ft.; C.O.
Pelican Nat. Gas Co.'s No. 2 Sabine Lbr. Co., 350 ft. S, 350 ft. E, C, Sec. 16-7-12.....Derrick.
Pelican O. & G. Co.'s No. 2 La. Long Leaf Lbr. Co., C, NE, Sec. 20-7-12.....S.D. 1,990 ft.
Pelican O. & G. Co.'s No. 1 Sabine Lbr. Co., 330 ft. S, 330 ft. E, NW cor. NE SW, Sec. 1-7-12.....T.A. 2,833 ft.
D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12.....S.D. 2,590 ft.
San Miguel Oil Corp.'s No. 1 Blankenship, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 20-9-11.....Derrick.
Teteco Oil Corp.'s No. 1 La. Long Leaf Lbr. Co., 325 ft. S, 100 ft. W, NE cor. NW, Sec. 18-6-12.....S.D. 170 ft.

TENSAS PARISH

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12.....Drlg. 1,760 ft.

WEBSTER PARISH

J. J. Kean's No. 1 Monzingo (was F. M. Fuller's), 200 ft. N, 200 ft. W, SE cor., Sec. 17-18-8.....Coring 1,715 ft.

ARKANSAS

ASHLEY COUNTY

J. D. Marcum Co.'s No. 1 McGarry, 300 ft. W, 100 ft. S, C, Sec. 10-19-4.....O.W.D.D.; arranging to deepen; T.D. 3,300 ft.

CALHOUN COUNTY

Tidal Oil Co.'s No. 1 Freeman-Smith Lbr. Co., 150 ft. C S line, NE NW, Sec. 3-16-14.....Rig up.

CLEBURNE COUNTY

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10.....Drlg. hard rock 3,150 ft.
Donnelly-Craver et al's No. 1 Doniphan Lbr. Co., SE cor. NW, Sec. 33-11-9.....Fishing for tools 960 ft.

COLUMBIA COUNTY

Parker et al's No. 1 Franks, 330 ft. S, 330 ft. W, C, Sec. 25-19-22.....S.D. 2,835 ft.

DREW COUNTY

McClintock & Goodka's No. 1 Ogles, 920 ft. W, 400 ft. S, NE cor., Sec. 35-13-5.....Fishing D.S.; T.D. 2,625 ft.

FRANKLIN COUNTY

Red Bank Oil Co.'s No. 1 Edtin, SW cor., Sec. 33-10-26..Drlg. hard shale 881 ft.

GARLAND COUNTY

Givens et al's No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19.....S.D.; W.O. 3,604 ft.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32.....Coring sandy lime 2,376 ft.
McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 450 ft. W, SE cor. SE NE, Sec. 13-13-28.....Arranging to set 6⅝-in.; T.D. 2,180 ft.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26.....O.W.D.D.; comp. 3,610 ft.; U.R. 5 3/16-in. 3,510 ft.; T.D. 3,610 ft.

MADISON COUNTY

J. W. Baxter's No. 1 Hallem, C NE SW, Sec. 17-16-26....Location.

OUACHITA COUNTY

Anderson & Wimmer's No. 1 Buck, Sec. 7-15-17.....Fishing 1 jt. D.S.; T.D. 2,375 ft.

PIKE COUNTY

Theo. Davis, trustee's No. 1 Ruth Wilson, 200 ft. S, 200 ft. W, NE cor., Sec. 25-5-26.....Fishing 700 ft.; S.O.

POPE COUNTY

Ark.-La. P. L. Co.'s No. 1 Crotts, 660 ft. S, 660 ft. W, NE cor. SW NE, Sec. 16-9-21.....Drlg. 1,298 ft.
Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19.....Drlg. lime 4,170 ft.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26.....Fishing cable tools; T.D. 1,420 ft.

SEBASTIAN COUNTY

M. W. Greeson's No. 1 Spears, Sec. 9-7-29.....Began drlg. May 4; cmtd. 10-in. 19 ft., 8-in. 185 ft.; drlg.
Lavaca O. & G. Co.'s No. 9 Cason, Sec. 21-8-30.....Derrick.
Lavaca O. & G. Co.'s No. 1 Southland, Sec. 28-8-30.....Drlg. 2,650 ft.

ST. FRANCIS COUNTY

Brownlee Drlg. Co.'s No. 1 Whitted, 110 ft. N, 110 ft. E, SW cor. SE NW, Sec. 28-4-1.....Drlg. 2,393 ft.

UNION COUNTY

Ark. Nat. Gas Corp.'s No. 1 Burns, 330 ft. E, 400 ft. N, SW cor. NE NW, Sec. 14-18-17.....Cmtd. 10-in. 157 ft.; drlg. 765 ft.
Carter et al's No. 1 Burnside, 320 ft. W, 150 ft. S, NE cor. SE NE, Sec. 13-18-14.....Drlg. 1,550 ft.
O. W. Estes' No. 1 Telford, 320 ft. S, 320 ft. E, NW cor. SW, Sec. 35-17-14.....Cmtd. 4½-in. 2,882 ft.; T.D. 2,906 ft.
S. B. Hickman's No. 1 Hogg, 330 ft. S, 150 ft. E, NW cor. SE SE, Sec. 35-16-17.....Began drlg. Apr. 25; cmtd. 10-in. 100 ft.
H. L. Hunt's No. 1 Trummell, 240 ft. S, 330 ft. E, NW cor. SW NW, Sec. 28-18-12.....Coring 2,724 ft.
Lion Oil Ref. Co.'s No. 1 Ballard, 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 10-18-13.....Cored S.W. sand 4,487 ft.; T.A. 4,487 ft.
Marine Oil Co.'s No. 2 Simmons, 300 ft. N, 300 ft. E, SW cor. SE NW, Sec. 10-18-13.....Rig up.
Marine Oil Co.'s No. 3-B Winn, 330 ft. S, 330 ft. W, NE cor., Sec. 10-18-12.....Drlg. 2,260 ft.
Modisette Drlg. Co.'s No. 4 Union Sawmill, 300 ft. W, 300 ft. N, SE cor., Sec. 14-18-14.....Location.
J. W. Olvey's No. 1 G. G. Simmons, 288 ft. S, 288 ft. W, NE cor. NE NW, Sec. 15-18-13.....T.A. 3,563 ft.
Simms Oil Co.'s No. 1 G. G. Simmons, 200 ft. S, 200 ft. W, NE cor. SW, Sec. 10-18-13.....Swabbed fluid 65% S.W.; sand 3,527-30 ft.; arranging to deepen 5 jts.
Southern Crude O. P. Co.'s No. 1 Oliver, 330 ft. N, 330 ft. W, SE cor. NE, Sec. 11-18-13.....Small show oil, tested dry 2,280-2,308 ft.; S.D.
South El Dorado Oil Co.'s No. 1 Traylor, 330 ft. N, 138 ft. W, SE cor. NW NE, Sec. 9-19-15.....Drlg. 200 ft.

VAN BUREN COUNTY

Glenn Cole et al, trustee's No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13.....S.D. 50 ft.

WASHINGTON COUNTY

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32.....S.D.; W.O. 602 ft.
C. H. Willoughby's No. 1 Jones, Sec. 34-16-30.....Trying to kill wtr. flow 2,150 ft.; hard sand showing oil 1,637-40 ft.
Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32.U.R. 8-in. to T.D. 1,500 ft.

WHITE COUNTY

Letona Synd.'s No. 1 Letona, SE cor. NW SW, Sec. 35-9-8.....Pulled 5 3/16-in.; S.D.; W.O.; T.D. 3,650 ft.

YELL COUNTY

Tegmeir & Luckett's No. 1 Falcon, Sec. 36-1-21.....Recmtd. 6⅝-in. 3,577 ft.; C.D.

EAST TEXAS

BOWIE COUNTY

Lee Timberlake's No. 1 Tidwell, 2,800 ft. N, 300 ft. W, SE cor., Jos. Eskell Sur.....Derrick.

CAMP COUNTY

Rogers et al's No. 1 Enfelt, R. M. Montgomery Sur.....Tested dry 1,870 ft.; S.D. 1,920 ft.

MARION COUNTY

J. L. Hunt's (was R. E. Davidson's) No. 1 Susie Chapman, Jackson-Grayson Sur.....Drlg. 3,190 ft.
P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur.....Derrick pattern.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur.....S.D. 2,865 ft.
Shad Harper's No. 1 W. R. Garland, J. Wagely Sur.....S.D. 1,862 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur.....S.D. 2,182 ft.

SHELBY COUNTY

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 1 McCann, D. G. Green Sur.....Arranging for D.S. test 4,132 ft.
Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur.....S.D. fuel; T.D. 3,300 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e..Fishing 6-in. and tools 2,392 ft.; T.D. 2,735 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3.....Driving 8¼-in. 1,400 ft.

HINDS COUNTY

Oscar Brown's No. 1 Riverside (formerly Hennessee et al's), SE cor. SE SW, Sec. 23-16-5.....Set 12½-in. 30 ft.; S.D. 1,050 ft.
Cane River Oil Co.'s No. 1 Lufkin, Sec. 15-5-1e.....Derrick.
Dome Oil Co.'s No. 1 Elton, NE cor. NE SW, Sec. 5-4-1e..Claim oil sand 818-24 ft.; arranging to cmt. 9-in. 818 ft.
Jackson Oil Co.'s No. 1 Central Cotton Oil Co., NW cor. SW NW, Sec. 3-5-1e.....Derrick.
Jackson O. & G. Co.'s No. 1 Taylor, SE cor. SE, Sec. 35-6-1e.....Claim sand showing oil 2,910 ft.; lost core; rmd. to 2,808 ft. for 6⅝-in.
La. G. & F. Co.'s No. 1 Harris, SE cor., Sec. 35-6-1e....Drlg. 2,780 ft.
Love O. & G. Co.'s No. 1 Bridges-Hilzim, 870 ft. N, 920 ft. W, SE cor., Sec. 35-6-1e.....Began drlg. Apr. 28; W.O.
Love O. & G. Co.'s No. 1 Mendoza, Sec. 11-5-1e.....Tested 7,000,000 ft. gas 2,446 ft.; W.O.
Magnolia State Oil Co.'s No. 1 Brown, Sec. 19-6-1e.....Derrick.
Progressive Oil Co.'s No. 1 Mayes, C NE NE, Sec. 2-5-1e.Derrick.
Mrs. Reeder et al's No. 1 State, SE cor. NW NW, Sec. 25-6-1e.....W.O.; T.D. 2,905 ft.
Tri-State O. & G. Co.'s No. 1 Wilson, SW cor. SE NE, Sec. 23-6-1e.....Derrick.
J. A. Weir et al's No. 1 Holliday & Ross, NW SE, Sec. 8-6-2e.....Derrick.

HUMPHREYS COUNTY

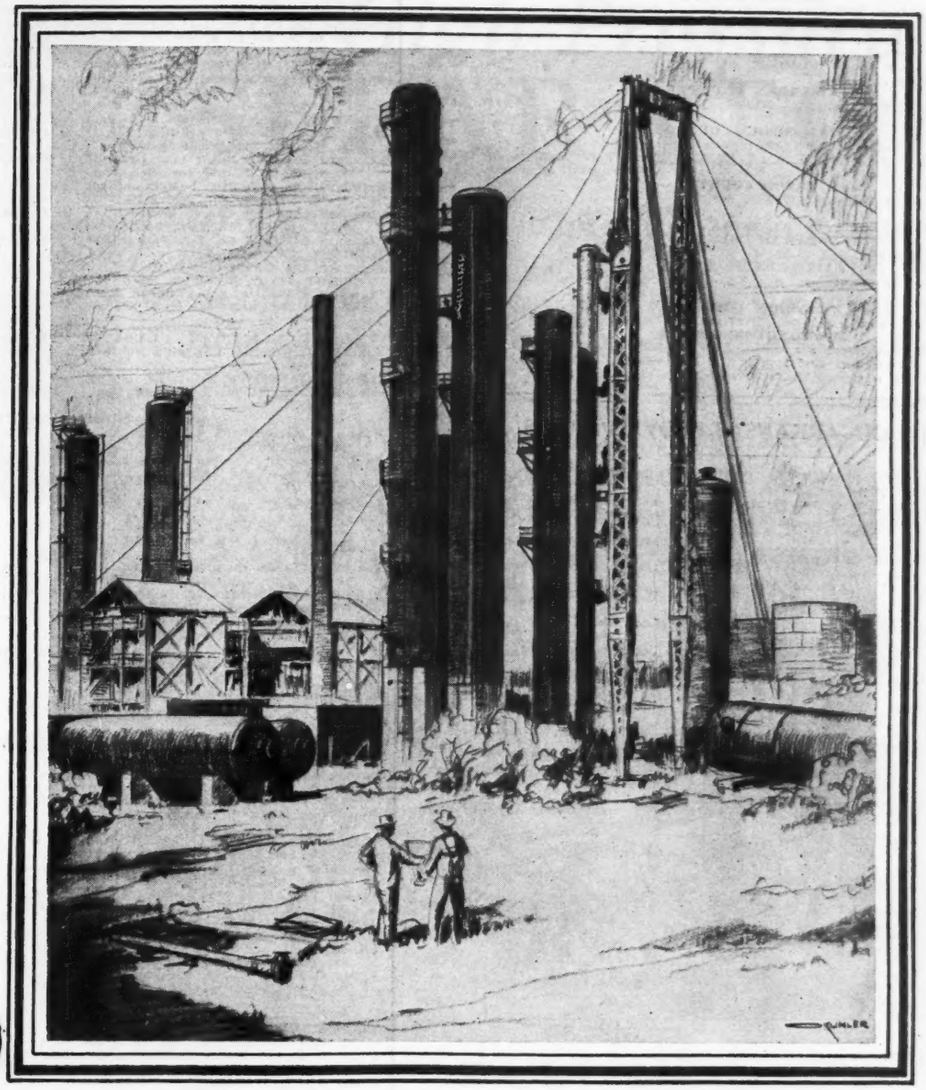
E. S. Steele et al's No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w.....Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16.....Cored hard sand 3,084-87 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18.....S.D.; W.O.; sandy shale 2,826 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-16-14....Derrick.

LAFAYETTE COUNTY

Banks-Goode et al's No. 1 May 113½ rds. S, 28 rds. E, NW cor. SW, Sec. 22-10-1w.....Derrick.



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LINCOLN COUNTY

Lincoln O. & G. Co.'s No. 1 Pat Case, NE NE, Sec. 21-8-6 ..... S.D.; W.O. 2,221 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 2,912 ft.; bailer lost in hole.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Shot 2,402-18 ft.; small show oil; arranging to shoot 2,387-95 ft.
Park Bowser et al's No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.

RANKIN COUNTY

Gulf Ref. Co.'s No. 1 Rainey, NW NW, Sec. 13-5-1e ..... Coring 2,900 ft.
R. A. More et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e ..... Drlg. 900 ft.
Interior Oil Co.'s No. 1 Moore, 660 ft. N, 660 ft. W, SE cor. NW NW, Sec. 28-6-2e ..... S.D. 900 ft.
Pearl River O. & G. Co.'s No. 1 Littlefield, SE NE, Sec. 12-5-1e ..... Derrick.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-15 ..... S.D. 2,475 ft.; 2,350 ft. D.S. in hole; W.O.

YALOBUSHA COUNTY

Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, Sec. 14-11-4 ..... Cored hard sandy shale 2,434 ft.; claim small show gas.

YAZOO COUNTY

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2 ..... Drlg. sandy lime 5,133 ft.

ALABAMA

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... T.A. 1,740 ft.

LAUDERDALE COUNTY

A. D. Morton et al's No. 10 O'Neal est., Sec. 8-2s-13w ..... Cmtd. 12½-in. 125 ft.; drlg. hard lime 905 ft.

MARION COUNTY

Hobson et al's No. 1 John Clark, SE, Sec. 29-11-14 ..... Derrick pattern.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D.; W.O. flow at 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... Fishing bailer; T.D. 881 ft.
Oscar Brown's No. 2 Land & Cotton Co., Sec. 25-3-2w ..... Drlg. 700 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 48)

Del.-La. Dev. Co.'s No. 6 Bollinger, 330 ft. S, 220 ft. W, NW cor. Lot 17, in Lot 16, Sec. 31-23-11 ..... Full oil; W.O.S.R; 15 ft. broken sand; T.D. 3,217 ft.

Eylers O. & G. Co.'s No. 1 Wise, 330 ft. S, 330 ft. W, NE cor., Sec. 35-23-11 ..... 350 ft. oil; W.O.S.R; T.D. 3,203 ft.

Greenwood Prod. Co.'s No. 1 Bollinger, 1,980 ft. N, 1,150 ft. E, SW cor. SE, Sec. 36-23-12 ..... 300 ft. oil; S.D; W.O. 3,200 ft.

H. L. Hunt's (was Love et al's) No. 1 Allen, SE cor. NE NE, Sec. 30-23-11 ..... W.O. 3,482 ft.

H. L. Hunt, Inc.'s No. 5 J. W. Peyton, 990 ft. W, 330 ft. S, NE cor. SE, Sec. 25-23-12 ..... Location.

H. L. Hunt, Inc.'s No. 7 J. W. Peyton, 990 ft. S, 990 ft. E, C, Sec. 25-23-12 ..... Location; reported drlg. in error.

H. L. Hunt, Inc.'s No. 8 J. W. Peyton, 990 ft. E, 330 ft. S, C, Sec. 25-23-12 ..... Location.

H. L. Hunt, Inc.'s No. 9 J. W. Peyton, 330 ft. S, 330 ft. E, C, Sec. 25-23-12 ..... W.O.S.R; 100 ft. oil; T.D. 3,222 ft.

H. L. Hunt, Inc.'s No. 10 J. W. Peyton, 990 ft. S, 330 ft. E, C, Sec. 25-23-12 ..... 500 ft. fluid; W.O.S.R; 3,176 ft.

Magnolia Pet. Co.'s No. 2 Matlock, 330 ft. S and W, NE cor. SE SW, Sec. 25-23-12 ..... W.O.S.R. 3,188 ft.

Magnolia Pet. Co.'s No. 2 Roberson, 330 ft. S, 330 ft. E, NW cor. SW NE, Sec. 26-23-12 ..... Location.

Nat. Drlg. & Prod. Co.'s (was Lide et al's) No. 1 Matlock, 2,970 ft. S, 990 ft. E, NW cor., Sec. 26-23-12 ..... D.S. test 2,934-59 ft; S.D. repairing rig.

Nat. Gas Prod. Co.'s No. 3 U. S. Govt., 1,520 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11 ..... Began drlg. May 21; drlg. 100 ft.

Nat. Gas Prod. Co.'s No. 4 U. S. Govt., 2,440 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11 ..... Location.

The Texas Co.'s No. 1 Peyton, 660 ft. N, 330 ft. E, SW cor., Sec. 30-23-11 ..... O.W.D.D; comp. Feb. 19, 1928; 40,000,000 ft. gas; 2 ft. sand; T. D. 3,076 ft; derrick.

The Texas Co.'s No. 2 Peyton, 990 ft. N, 330 ft. W, SE cor., Sec. 25-23-12 ..... W.O.S.R. 3,195 ft.

The Texas Co.'s No. 5 Peyton, 330 ft. N, 330 ft. W, SE cor., Sec. 25-23-12 ..... Derrick.

The Texas Co.'s No. 7 Peyton, 1,090 ft. N, 150 ft. E, C, Sec. 31-23-11 ..... O.W.D.D; waiting on rig; T.D. 2,680 ft.

The Texas Co.'s No. 1 Hy. Rose, 940 ft. E, 450 ft. N, C, Sec. 31-23-11 ..... O.W.D.D; waiting on rig; T.D. 2,680 ft.

The Texas Co.'s No. 7 Wilkinson, 990 ft. N, 990 ft. E, C, Sec. 36-23-12 ..... Cmtd. 6-in. 3,135 ft; sand 3,144-58 ft; S.D. repairing rig.

The Texas Co.'s No. 8 Wilkinson, 990 ft. W, 330 ft. N, SE cor. NE, Sec. 36-23-12 ..... Coring 3,142 ft.

Tippett Drlg. Co.'s No. 2 Holmes, 990 ft. S, 330 ft. W, NE cor. NW, Sec. 36-23-12 ..... Cmtd. 6⅝-in. 3,140 ft; sand 3,153-56 ft.

John Woodley et al's No. 2 L. & A., 990 ft. N, 990 ft. W, SE cor., Sec. 14-23-12 ..... Fishing for bailer 3,156 ft.

Woodley et al's No. 1 Roberson, 330 ft. N, 330 ft. W, SE cor. SW NE, Sec. 22-23-12 ..... Surface csg. collapsed; W.O; T.D. 1,500 ft.

BOSSIER PARISH—SLIGO

La. G. & F. Co.'s No. 6 Thigpen-Herold, 660 ft. S, 1,980 ft. E, NW cor., Sec. 13-17-12 ..... Rig up.

CADDO PARISH—DIXIE

D. C. Richardson's No. 1 Oden, 330 ft. S, 330 ft. W, C, Sec. 18-19-14 ..... S.D; high wtr; T.D. 2,620 ft.

CADDO PARISH—GREENWOOD

Ark.-La. P. L. Co.'s No. 1-B Brumble, 830 ft. S, 1,280 ft. E, NW cor., Sec. 18-16-16 ..... Drlg. 3,084 ft.

Calatex O. & G. Co.'s No. 1 Edgar, 1,460 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16 ..... Location.

Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,810 ft. S, 970 ft. E, NW cor., Sec. 17-16-16 ..... Location.

Calatex O. & G. Co.'s No. 1 Hudson, 2,395 ft. N, 660 ft. E, SW cor., Sec. 8-16-16 ..... Location.

Calatex O. & G. Co.'s No. 2 Taylor-Trosper, 45 ft. N, 1,220 ft. E, SW cor., Sec. 8-16-16 ..... Location.

CADDO PARISH—MOORINGSPORT

Falcon Oil Co.'s No. 3 Muslow, 1,220 ft. S, 1,070 ft. W, NE cor. SE, Sec. 29-20-15 ..... Cmtd. 6-in. 1,990 ft; drlg. plug; T.D. 2,020 ft.

Falcon Oil Co.'s No. 4 Muslow, 200 ft. W, 1,270 ft. S, NE cor., Sec. 29-20-15 ..... Location.

CADDO PARISH—OIL CITY

Gulf Ref. Co.'s No. 27-A Levee Board, 2,005 ft. S, 200 ft. W, NE cor. NW, Sec. 34-21-16 ..... 700 ft. oil; W.O.S.R; T.D. 1,833 ft.

Gulf Ref. Co.'s No. 28-A Levee Board, 210 ft. S, 200 ft. E, NW cor., Sec. 34-21-16 ..... Location.

P. T. Mize's No. 1-A La. Oil Ref. Corp., 662 ft. N, 175 ft. E, SW cor., Sec. 6-20-15 ..... Flowed 15 bbls. through 6-in. after shot at 1,475 ft; W.O.S.R; T. D. 1,485 ft.

The Texas Co.'s No. 2 Leonard fee, 1,520 ft. W, 900 ft. S, NE cor., Sec. 29-20-15 ..... W.O.S.R. 2,353 ft.

The Texas Co.'s No. 3 Leonard fee, 2,440 ft. W, 576 ft. S, NE cor., Sec. 29-20-15 ..... Began drlg. May 18; cmtd. 12½-in. 48 ft; drlg. 1,370 ft.

The Texas Co.'s No. 73 Levee Board, 1,642 feet. E, 780 ft. N, SW cor. SW SE, Sec. 27-21-16 ..... Location.

CADDO—PINE ISLAND

Tholl Oil Co.'s No. 12 Bashara, 300 ft. S, 100 ft. W, NE cor. NW, Sec. 23-21-15 ..... Cmtd. 6-in. 1,390 ft.

DE SOTO PARISH—KINGSTON

Ark. Fuel Oil Co.'s No. 2 Scott, 330 ft. N, 330 ft. E, SW cor. SE NE, Sec. 32-14-13 ..... Drlg. 1,865 ft.

Frank Melat, Inc.'s No. 1 Schryver, 175 ft. E, 175 ft. N, SW cor. NW SW, Sec. 35-14-13 ..... Top Nacatoch 1,187 ft; coring 1,190 ft.

Standard Oil Co.'s No. 1 Brooks (was R. O. Roy's), 660 ft. S, 660 ft. W, NE cor. NW, Sec. 8-13-13 ..... Rig up.

Standard Oil Co.'s No. 1-D Farmer (was R. O. Roy's), 330 ft. N, 330 ft. E, SW cor. SE, Sec. 32-14-13 ..... Derrick.

Standard Oil Co.'s No. 2 Jessie Fuller (was R. O. Roy's), 660 ft. S, 660 ft. E, NW cor. SE, Sec. 6-13-13 Rig up.

Standard Oil Co.'s No. 1-B Farmer (was R. O. Roy's) 660 ft. S, 660 ft. E, NE SW, Sec. 13-13-13 ..... Drlg. chalk 1,650 ft.

R. O. Roy's No. 1 C. C. Fuller, 330 ft. S, 330 ft. W, NE cor. SE NW, Section 5-13-13 ..... Drlg. 2,112 ft.

R. O. Roy's No. 1 Odes Fuller, 330 ft. S, 330 ft. W, W, NE cor. SE, Sec. 6-13-13 ..... Drlg. 1,140 ft.

Standard Oil Co.'s No. 1 Lee, (was R. O. Roy's), 660 ft. N, 660 ft. E, SW cor., Sec. 33-14-13 ..... Drlg. 2,817 ft.

Standard Oil Co.'s No. 1 McClanahan, 380 ft. S, 330 ft. W, NE cor. SE, Sec. 8-13-13 ..... Location.

Standard Oil Co.'s No. 1 McGee (was R. O. Roy's), 660 ft. N, 660 ft. W, C, Sec. 8-13-13 ..... Derrick.

Standard Oil Co.'s No. 1-A Parker (was R. O. Roy's), C SW NW, Sec. 5-13-13 ..... Drlg. 2,575 ft.

Standard Oil Co.'s No. 1-B Parker Bros. (was R. O. Roy's), 660 ft. N, 660 ft. W, SE cor., Sec. 31-14-13 .. Arranging to test 2,847 ft; C.O.

Standard Oil Co.'s No. 1 H. B. Sample (was R. O. Roy's), 660 ft. W, 660 ft. S, NE cor., Sec. 7-13-13 .... Began drlg. May 18; cmtd. 10-in. 230 ft.

LA SALLE PARISH—URANIA

Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e ..... S.D. 1,570 ft.

La. Oil Ref. Corp.'s No. 2 La. Central O. & G. Co., 660 ft. N, 200 ft. E, SW cor., Sec. 27-10-2e ..... Began drlg. May 20; cmtd. 10-in. 70 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 2-20-4 ..... Location.

J. S. Herkness' No. 12 Bowles, 3,392 ft. E, 3,300 ft. S, NW cor., Sec. 18-20-5 ..... S.D. high water; T.D. 2,780 ft.

Industrial Gas Co.'s No. 1 fee, 1,980 ft. S, 660 ft. W, NE cor., Sec. 3-20-4 ..... Began drlg. May 16; cmtd. 12½-in. 143 ft., 9-in. 848 ft.

La. G. & F. Co.'s No. 26 Crossett, 645 ft. E, 574 ft. S, NW cor. Lot 9, Sec. 33-21-5 ..... Began drlg. May 16; S.D. high water; T.D. 75 ft.

Southern Carbon Co.'s No. 55 fee, 1,980 ft. S, 660 ft. W, NE cor., Sec. 16-20-4 ..... Cmtd. 8-in. 761 ft.; drlg. 1,440 ft.

Southern Carbon Co.'s No. 56 fee, 660 ft. S, 660 ft. E, NW cor. NW, Sec. 15-20-4 ..... Location.

United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Cmtd. 8-in. 764 ft.; drlg. 1,340 ft.

OUACHITA PARISH

Amalgamated Co.'s No. 1-B Kate Cole, 660 ft. N, 660 ft. E, SW cor. NE SW, Sec. 25-20-4 ..... Rig up.

Ark.-La. P. L. Co.'s No. 5 Rea & Green, 1,150 ft. S, 2,400 ft. E, NW cor., Sec. 2, in Sec. 82-18-4 ..... Began drlg. May 15; cmtd. 12½-in. 177 ft., 8-in. 865 ft.; drlg. 1,224 ft.

Carbon Consolidated, Inc.'s No. 3 Kate Cole, 660 ft. S, 544 ft. E, C, Sec. 26-20-4 ..... S.D. high water; T.D. 2,195 ft.

Carbon Consolidated, Inc.'s No. 5 Guthrie (was United Oil & Nat. Gas Co.'s No. 5 Guthrie), 6,634 ft. N, 7,078 ft. W, cor. Secs. 49, 25 and 26, in Sec. 50-20-4 .. Derrick.

Hope Prod. Co.'s No. 2 Fairbanks, 1,876 ft. E, 623 ft. N, SW cor. SE, Sec. 25-20-4 ..... Location.

Hope Prod. Co.'s No. 4 Fairbanks, 616 ft. W, 623 ft. S, NE cor., Sec. 36-20-4 ..... Derrick.

Jordan Drlg. Co.'s No. 6 Cole, 1,596 ft. W, 2,388 ft. N, SE cor., Sec. 49, in Sec. 50-18-4 ..... S.D. 2,005 ft.

Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4 ..... Location.

Jordan Drlg. Co.'s No. 2 Pereboom, 1,207 ft. W, 264 ft. S, C, Sec. 9-18-4 ..... Location.

La. G. & F. Co.'s No. 3 Breard, S 9° 734 ft., S 81° E 594 ft., NW cor., Sec. 44-18-4 ..... S.D. high wtr.; T.D. 1,300 ft.

Lyons Gas Co.'s No. 2 Albright, 2,171 ft. W, 1,627 ft. S, most easterly cor., Sec. 13-18-3 ..... Began drlg. May 15; cmtd. 12¼-in 180 ft., 8-in 865 ft., 6-in 2,285 ft.

Ouachita Nat. Gas Co.'s No. 13 Smith, 5,684 ft. E, 8,148 ft. N, NW cor., Sec. 38 in Sec. 37-20-4 ..... Location.

Pipes & Mack's No. 1 Union Gas Products Co., Inc., 1,598 ft. W, 297 ft. N, SE cor. SW, Sec. 7-18-5 ..... Cmtd. 8-in. 835 ft.; S.D. high wtr.; T.D. 1,600 ft.

Pipes & Mack's No. 2 Union Gas Products Co., 296 ft. W, 528 ft. N, SE cor. SW, Sec. 7-18-5 ..... Location.

Jordan Drlg. Co.'s No. 1 School, 216 ft. S, 244 ft. W, NE cor. NW, Sec. 16-18-4 ..... Location.

Union Gas Products Co.'s No. 1 Hare, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 22-19-5 ..... D.S. test 2,565 ft.; dry; W.O.

United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4 ..... Location.

United O. & N. G. Co.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

RICHLAND PARISH

W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6 ..... Rig up.

Franklin O. & G. Co.'s No. 1 Thompson, 660 ft. N, 165 ft. W, SE cor. NE, Sec. 14-16-6 ..... Location.

Industrial Gas Co.'s No. 1 Alexander, 760 ft. E, 27 ft. N, SW cor. SE, Sec. 4-16-6 ..... Cmtd. 6-in. 2,300 ft.

Industrial Gas Co.'s No. 1 Eliege, 1,320 ft. N, 660 ft. E, SW cor. SE, Sec. 4-16-6 ..... Rig up.

Industrial Gas Co.'s No. 1 Lyles, 1,314 ft. N, 520 ft. E, SW cor., Sec. 23-16-6 ..... Location.

International Gas Prod. Co.'s No. 1 Minnie LaGrone, 769 ft. N, 858 ft. E, SW cor., Sec. 7-16-7 ..... Location.

Palmer Corp.'s No. 1-B Boykin, 177 ft. S, 787 ft. E, C, Sec. 33-17-6 ..... Location.

Palmer Corp.'s No. 6 Rhymes, 1,290 ft. S, 1,080 ft. E, NW cor., Sec. 3-16-6 ..... Began drlg. May 18; cmtd. 12¼-in. 194 ft.

Palmer Corp.'s No. 8 Rhymes, 1,008 ft. E, 635 ft. S, NW cor., Sec. 33-17-6 ..... Cmtd. 6-in. 2,300 ft.

Palmer Corp.'s No. 1-E D. R. Sartor, 495 ft. S, 660 ft. E, NW cor., Sec. 16-16-6 ..... Cmtd. 8⅛-in. 2,300 ft.

Pelican Nat. Gas Co.'s No. 1 M. Chapman, 660 ft. N, 660 ft. E, SW cor., Sec. 14-16-6 ..... Derrick.

Richland Operating Co.'s No. 2 Godfrey, 1,980 ft. N, 1,122 ft. E, SW cor., Sec. 25-16-6 ..... Began drlg. May 15; cmtd. 12-in. 198 ft., 8-in. 850 ft.

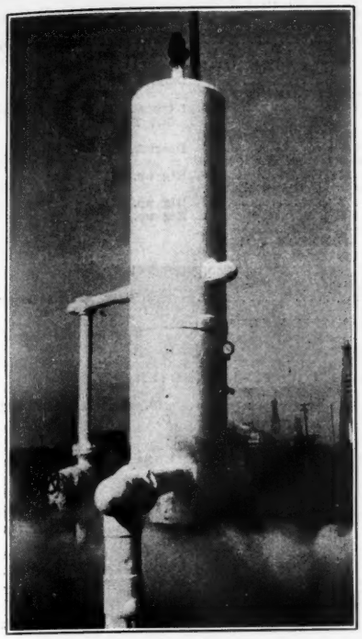
Richland Prod. Co.'s No. 1 T. S. McCoy, 1,252 ft. E, 589 ft. N, SW cor., Sec. 3-16-6 ..... Derrick.

Southern Carbon Co.'s No. 1 Hattock, 3,300 ft. N, 760 ft. W, SE cor., Sec. 2-16-6 ..... Location.

Southern Carbon Co.'s No. 1 H. H. Hemler, 660 ft. N, 1,435 ft. E, SW cor., Sec. 1-16-6 ..... Location.

Southern Carbon Co.'s No. 1-B J. H. Hemler, 619 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6 ..... Location.

Southern Carbon Co.'s No. 1 McCoy, 1,980 ft. E, 3,300 ft. S, NE cor., Sec. 16-16-6 ..... S.D. 2,450 ft.

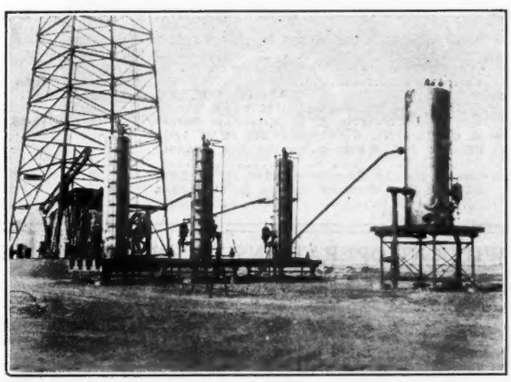


Kinter No. 1
Handling 22,000,000 cu. ft. gas, 340 lbs. 64° gasoline—operating at 350 lbs. pressure.

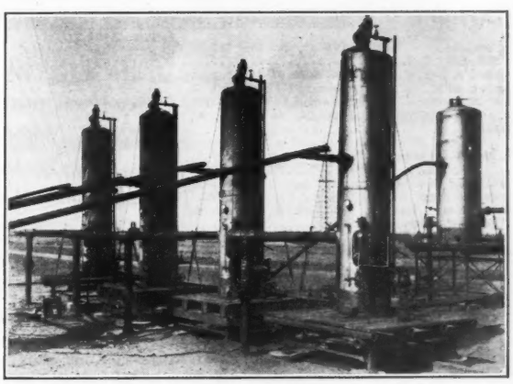
NATIONAL *High-Pressure* SEPARATORS

are especially adapted to handling large volumes of gas and gasoline of gas and oil wells to complete separation. In order that you may know just what to expect from an installation of Nationals in series the following example is given:

Three No. 4A, and one No. 2A Nationals can handle 100,000,000 cu. ft. of gas with a normal .8 gallon gasoline content and 9,000 bbls. of oil or gasoline. Operating the three No. 4A's at 450 lbs. to 500 lbs. pressure, all gasoline content can be extracted down to .15 or less.



Petty No. 2—Three No. 4A and One No. 2A Nationals—Series Installation Operating at 300 lbs. pressure.



Petty No. 5—Four No. 4 and One No. 2A Nationals—Series Installation Operating at 350 lbs. pressure.

Extraction of all mist from the gas is readily accomplished with National Separators. In the above illustrations are shown the series hook-ups of National Separators used to handle the production of the No. 2 and No. 5 Petty Wells in the Oklahoma City Field. As indicated, high-pressure separators receive the entire output direct from the wells. High-pressure gas removed from these separators is comparatively dry, and the gas may be used for re-pressuring other wells, or sold to commercial gas lines.

Oil or gas from the series of high-pressure separators is passed to the single low-pressure separator which is maintained at a point as near atmospheric pressure as possible. By elevating the secondary separator it is sometimes possible to have only gravity pressure to the stock tanks. The low pressure separation of the second separator removes the remaining entrained gas and releases the oil or gasoline to the stock tanks in a much more stable condition. The release gas may be carried to the gasoline plant.

Can You Do This With Any Other Separator?

Southern Carbon Co.'s No. 1-B M. L. McCoy, 660 ft. S, 660 ft. E, NW cor. NE, Sec. 32-16-6.....Cmtd. 8-in. 819 ft.
Southern Carbon Co.'s No. 1-C M. L. McCoy, 1,880 ft. N, 2,871 ft. E, SW cor., Sec. 1-16-6.....Derrick.
Southern Carbon Co.'s No. 2-C M. L. McCoy, 1,880 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6.....Location.
Southern Carbon Co.'s No. 1 L. S. Mulhern, 660 ft. S, 560 ft. W, NE cor. NW, Sec. 30-16-6.....Cmtd. 6-in. 2,300 ft.
Southern Carbon Co.'s No. 4 E. A. and F. B. Sartor, 1,371 ft. E, 4,563 ft. S, NW cor., Sec. 18-16-6.....Drlg. 2,110 ft.
Southern Carbon Co.'s No. 1-C T. R. Sartor, 660 ft. S, 660 ft. W, NE cor., Sec. 29-16-6.....Location.
Southern Carbon Co.'s No. 1 H. L. Thomason, 660 ft. N, 660 ft. E, SW cor., Sec. 2-16-6.....Location.
Southern Carbon Co.'s No. 1-B Thomason et al, 2,310 ft. W, 100 ft. S, NE cor., Sec. 23-16-6.....Location.
Southern Carbon Co.'s No. 1-C Thomason, 1,980 ft. N, 660 ft. W, SE cor., Sec. 14-16-6.....Location.
United Carbon Co.'s No. 1 Duff, 1,320 ft. N, 660 ft. W, SE cor., Sec. 16-16-6.....Drlg. 1,640 ft.
United Carbon Co.'s No. 1 Landers, 1,320 ft. S, 660 ft. E, NW cor., Sec. 2-15-6.....Drlg. 1,890 ft.
United Carbon Co.'s No. 2 Mitchell, 660 ft. S, 660 ft. W, NE cor., Sec. 20-17-6.....Location.

SABINE PARISH—PLEASANT HILL

Bridges-Clark Oil Co.'s No. 2 J. W. Guy, 330 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33-10-12.....Set 6⅝-in. and packer 2,420 ft.; tested dry; show gas 2,427-32 ft. and 2,447 ft.; T.A. 2,447 ft.
F. A. Bartlett, Jr.'s No. 1 Logan, 200 ft. S, 200 ft. E, NW cor., Sec. 27-10-12.....Rig up.
Standard Oil Co.'s No. 2 Ives, 330 ft. N, 330 ft. E, SW cor. SE SW, Sec. 34-10-12.....Drlg. 2,272 ft.

SABINE PARISH—ZWOLLE

T. D. Allison's No. 1 Holliday, Sec. 31-8-12, Zwolle Townsite.....Rig up.
Central Pet. Co.'s (was Allen & Thompson's) No. 1 McCormick, Lot 1, Blk. 2, NW NW, Sec. 31-8-12.....Cmtd. 6⅝-in. 2,210 ft.; T.D. 2,224 ft.
Allen & Thompson's No. 1 Wall, Zwolle townsite in Sec. 31-8-12.....W.O. 200 ft. oil; T.D. 2,350 ft.
Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 4 Bowman-Hicks, 330 ft. N, 330 ft. W, C, Sec. 34-8-12.....Drlg. chalk. 2,385 ft.
Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 5 Bowman-Hicks, 900 ft. S, 1,400 ft. W, C, Sec. 34-8-12.....Cored sandy lime showing little gas 3,598 ft.
Loring Oil Co.'s No. 8 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. SW SE, Sec. 33-8-12.....Derrick.
Loring Oil Co.'s No. 9 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. NE SE, Sec. 34-8-12.....Cmtd. 6⅝-in. 2,350 ft.; drlg. 2,405 ft.
McFann & Pace's No. 1 Reeves, 581 ft. E, 588 ft. N, SW cor. NW, Sec. 31-8-12.....Cmtd. 6⅝-in. 2,208 ft.
L. Nagle's No. 1 Corley, Sec. 31-8-12.....Show oil, tested dry 2,204 ft. and 2,461 ft.; S.D.; W.O.
Joe Burnham's No. 2 Bolin, 442 ft. E, 275 ft. N, SW cor. NE, Sec. 31-8-12.....Cmtd. 6⅝-in. 2,150 ft.; drlg. plug; T.D. 2,153 ft.
J. R. Crawford's No. 1 Pearce, 408 ft. S, 200 ft. E, NW cor. SW SE, Sec. 32-8-12.....S.D. 1,950 ft.
Dooley & Howard's No. 1 Williams, Sec. 31-8-12.....Rig up.
R. T. Dudney et al's No. 1 Pearson, SE cor. Lot 3, Blk. 3, SW NW, Sec. 31-8-12, Zwolle townsite.....200 ft. oil; W.O.; T.D. 2,576 ft.
Dixie Oil Co.'s No. 1 Nunn, 330 ft. N, 85 ft. W, C, Sec. 32-8-12.....Dry 2,497 ft.; W.O.S.R. 2,514 ft.; 1,600 ft. oil.
Gerke et al's No. 1 Okerson, Zwolle townsite, Sec. 31-8-12.....Derrick.
Glassell & Merren's No. 1 Thomas, Lot 13, Blk. 3, Zwolle townsite, Sec. 31-8-12.....Oil show; S.D.; W.O. 2,600 ft.
H. E. Granville's No. 1 Parrott, 1,052 ft. S, 661 ft. E, NW cor., Sec. 31-8-12.....Began Drlg. May 19; cmtd. 10-in. 98 ft.
W. G. Gray, trustee's No. 1 Knowlton, 200 ft. S, 330 ft. W, NE cor. NW NE, Sec. 6-7-12.....Drlg. lime 3,880 ft.
C. L. Jett, trustee's No. 1 Jones, 150 ft. C, Sec. 31-8-12.....200 ft. oil; W.O.S.R.; T.D. 2,210 ft.
Jones et al's No. 1 Carson, Sec. 31-8-12.....Derrick.
F. M. Hood's No. 2 Winston, 700 ft. E, 425 ft. S, NW cor., Sec. 31-8-12, Zwolle townsite.....Began drlg. May 19; cmtd. 10-in. 79 ft.
Ohio Oil Co.'s No. 3 Bowman-Hicks, 330 ft. S and W, NE cor. SE SW, Sec. 33-8-12.....Drlg. lime and chalk 2,800 ft.
Ohio Oil Co.'s No. 5 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor., Sec. 33-8-12.....Location.
Olsen Bros.' No. 1 Ferguson, 330 ft. N, 330 ft. E, SW cor. NW SE, Sec. 33-8-12.....Cored marl and chalk showing oil 2,436 ft. T.D.; waiting to set 6⅝-in.
Olsen Bros.' No. 1 Keeler, SW cor. SW SE, Sec. 27-8-12.....T.A. 2,625 ft.
W. D. Perritt's No. 1 Crow, 150 ft. N, 150 ft. E, SW cor. SE SW SW, Sec. 30-8-12.....Cmtd. 6⅝-in. 2,212 ft.
Philp Bros.' No. 1 Dow, Lot 1, Blk. 18, Zwolle townsite, Sec. 31-8-12.....Drlg. 1,822 ft.
Posey et al's No. 1 Peterson, Blk. 16, Zwolle townsite, Sec. 31-8-12.....Rig up.
Ruston Drlg. Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. W, NE cor., Sec. 4-7-12.....T.A. 2,640 ft.
Ruston Drlg. Co.'s No. 1-A Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. SW SW, Sec. 35-8-12.....T.A. 2,690 ft.
C. E. Simmons' No. 1 Anderson, Sec. 31-8-12, Zwolle townsite.....Rig up.
C. E. Simmons' No. 1 Leach, 435 ft. W, 113 ft. N, SE cor. SW NW.....Location.
W. S. Smith et al's No. 1 Colquitt, Zwolle townsite, 500 ft. S, 480 ft. E, NW cor. SW NE, Sec. 31-8-12.....Derrick.
W. S. Smith et al's No. 1 Henderson, 200 ft. S, 300 ft. E, NW cor. SE SE, Sec. 31-8-12.....Derrick.
W. S. Smith et al's No. 1 Williams, Zwolle townsite, 804 ft. N, 40 ft. W, SE cor. SW NE, Sec. 31-8-12.....Rig up.
Stovall Drlg. Co.'s No. 1 Lefkovitz, 247 ft. N, 250 ft. W, SE cor. N¾ SE NW, Sec. 33-8-12.....Drlg. chalk and lime 2,730 ft.
A. H. Tarver et al's No. 2 Sabine State Bank, 300 ft. N, 300 ft. E, SW cor. NW, Sec. 26-8-12.....Drlg. 1,900 ft.
Wheatcroft et al's No. 1 Sabine Lbr. Co., SW NE, Sec. 31-8-12.....Began drlg. May 17; cmtd. 10-in. 84 ft.; drlg. 1,050 ft.
Wilder et al's No. 1 Parrott, Sec. 31-8-12.....Derrick.

SABINE PARISH—BLUE LAKE

H. S. Autrey's No. 1 Long-Bell, 1,120 ft. S, 1,120 ft. W, NE cor., Sec. 35-8-14.....Drlg. 2,429 ft.
R. L. Gay's No. 3 Bowman-Hicks, Sec. 18-7-13.....Drlg. 2,097 ft.
R. L. Gay's No. 4 Sabine Lbr. Co., Sec. 18-7-14.....Showed oil, tested dry 2,500 ft.; drlg. 2,565 ft.
Ruston Drlg. Co.'s No. 1-B Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor., Sec. 24-7-14.....Tested dry 2,470 ft.; drlg.

UNION PARISH

Greenwood Prod. Co.'s No. 1-C Guinn, 1,320 ft. N, 3,300 ft. W, SE cor. NE, Sec. 32-21-3.....Rig up.
Stovall Drlg. Co.'s No. 1 Murray, 1,650 ft. N, 330 ft. W, SE cor. SW, Sec. 32-23-4.....Location.

WEBSTER PARISH—SAREPTA AND SHONGALOO

E. W. Bateman's No. 1 Cook, 200 ft. S, 200 ft. W, NE cor. S½ SW NE, Sec. 2-22-11.....Rig up.
E. W. Bateman's No. 2 Cook, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 2-22-11.....Location.
Magnolia Pet. Co.'s No. 1 Gardner, 175 ft. N, 230 ft. E, SW cor. SE NW, Sec. 1-23-11.....Derrick.
J. S. Martin, trustee's No. 1 Taylor, 330 ft. N, 330 ft. W, SE cor. NW NW, Sec. 36-23-11.....Began drlg. May 17; cmtd. 10-in. 168 ft.
Merrick Oil Corp.'s No. 2 Slack, SE cor. NW, Sec. 36-23-11.....Drlg. 2,660 ft.
Mt. Vernon Oil Co.'s No. 3 Pardee, 200 ft. S, 1,500 ft. E, NW cor. NE SW, Sec. 3-22-11.....1,400 ft. fluid; 6 ft. sand; W.O.S.R.; T.D. 2,653 ft.
Ideal O. & G. Co.'s No. 1 Coyle, 300 ft. N, 300 ft. E, SW cor. SW SE, Sec. 24-23-11.....Derrick.
K. C. Supply Co.'s No. 1 Cochrane, 330 ft. N, 330 ft. W, SE cor. E½ NW, Sec. 36-23-11.....Rig up.
Sarepta Oil Co.'s No. 1 Slack, SW cor. NW NE, Sec. 36-23-11.....Rig up.
Sarepta Oil Co.'s No. 2 Gardner, NE SW, Sec. 1-22-11.....Rig up.

ARKANSAS
JOHNSON COUNTY

Ark.-La. P. L. Co.'s No. 1 Cline, 660 ft. S, 660 ft. W, NE cor. NE SE, Sec. 16-10-24.....Drlg. 950 ft.
Blackwell O. & G. Co.'s No. 1 Western Coal & Mining Co., C NE SE, Sec. 20-9-25.....Began drlg. May 18; cmtd. 10-in. 75 ft.; drlg. 100 ft.

NEVADA COUNTY

Roy Davis et al's No. 1 Chas. Henry, 1,120 ft. N, 1,120 ft. W, SE cor., Sec. 10-12-20.....Rig up.
C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20.....S.D. 2,810 ft.

OUACHITA COUNTY—SMACKOVER

L. K. Hamilton's No. 2 Arnold & Doyle, 460 ft. E, NW cor. SE SE, Sec. 23-15-16.....Cmtd. 6⅝-in. 2,000 ft.; T.D. 2,004 ft.
J. D. Reynolds' No. 4 Berg, 300 ft. S, 180 ft. W, NE cor. SE SW, Sec. 27-15-15.....Cmtd. 6⅝-in. 2,011 ft.

OUACHITA COUNTY—STEPHENS

Buffalo Oil Co.'s No. 1 Trammell, NE cor. SW NE, Sec. 11-15-19.....Rig up.
Magnolia Pet. Co.'s No. 2 Grayson, 150 ft. N, 200 ft. W, SE cor. NE, Sec. 21-15-19.....200 ft. fluid 50% S.W.; W.O.S.R. 11 ft. sand; T.D. 2,193 ft.

UNION COUNTY—CHAMPAGNOLLE

Sundby et al's No. 2 Perdue, 75 ft. S, 150 ft. E, NW cor., Sec. 33-16-14.....Cmtd. 10-in. 206 ft.; drlg. 1,450 ft.
Root Refineries, Inc.'s No. 2 Jerry, Sec. 21-17-14.....Cmtd. 10-in. 176 ft.; drlg. 1,510 ft.

UNION COUNTY—EL DORADO

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15.....Cored S.W. sand 2,724 ft.
Malloy & Co.'s No. 4 Goodwin, 300 ft. N, 300 ft. E, SW cor. NE NE, Sec. 36-17-16.....Stg. 2-in. tubing; T.D. 2,239 ft.
Malloy & Co.'s No. 1 Murphy, Sec. 1-18-16.....Rig up; W.O.
Malloy & Co.'s No. 3 Robertson, NE cor. S½ SW NE, Sec. 6-18-15.....Location.
Woodley Pet. Co.'s No. 5 Alderson, 175 ft. S, 175 ft. E, NW cor. NW SW, Sec. 31-17-15.....Arranging to drill in with cable tools; T.D. 2,150 ft.

EAST TEXAS
HARRISON COUNTY

Ark.-La. P. L. Co.'s No. 2 Gibson, 330 ft. N, 330 ft. W, SE cor. Gibson tract, J. Womack Sur.....Cmtd. 6⅝-in. 2,837 ft.; T.D. 2,900 ft.
Calatex O. & G. Co.'s No. 6 Agurs, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur.....Location.
Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur.....Drlg. sandy lime 3,227 ft.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 12 Werner, 1,102 ft. N, 132 ft. E, SW cor. 15-ac. tract in E. F. Mitcheson Sur.....D.S. test 3,443-63 ft. dry.
Calatex O. & G. Co.'s No. 3 Caldwell, 243 ft. S, 1,034 ft. W, SE cor. Jno. Womack Sur. in Jas. Shadoin Sur.....Drlg. 2,445 ft.
Doris Thomason's No. 10 Crenshaw, 1,730 ft. S, 2,594 ft. W, SE cor. Jno. Womack Sur. in B. C. Jordan Sur.....Drlg. 1,574 ft.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 51)

BEXAR COUNTY

Moore-Jauer's No. 1 Holly R. Ellison.....T. D. 2,105 ft.; drlg. in sand and broken lime rock.
J. M. Russell's No. 1 A. O. Miles, 1,600 ft. N line, 600 ft. W line 450-ac. tract, Angel Navarro Sur., 10 miles S from San Antonio.....T. D. 220 ft.; drlg. blue sand.
Henry Yelvington et al's No. 1 Beck, 355 ft. from W line, 310 ft. from S line 100-ac. tract, SW cor. of P. W. Hays Sur., 7 miles E from San Antonio.....T. D. 1,400 ft.; drlg. in chalk.
Dingman Drilling Co.'s No. 7 C. N. Cassin, 625 ft. from W line, 900 ft. from S line of 10,000-ac. tract in the J. M. Urriegas Sur., 5 miles SE from San Antonio.....Location.

CALDWELL COUNTY

Herb. Morgan's No. 1 O. Perry, 2,600 ft. S line, 3,850 ft. W line of survey in the John D. Ranes Sur., 2 miles NE from Bruner Pool.....T. D. 2,744 ft.; Edwards; waiting for csg.

DEWITT COUNTY

Gibson & McIntyre's No. 1 William Van Roeder.....T. D. 1,480 ft.; shut down.
Republic Prod. Co.-Simms Pet. Corp.'s No. 1 E. T. Clark 778-ac., 1,450 ft. from SE line, 7,500 ft. from SW line of tract in the Jose Santos, 4 miles S from Yorktown.....T. D. 4,340-61 ft. in sand; making drill stem test.
Louisiana Oil & Ref. Co.'s No. 1 William Kleavermann 100-ac., 400 ft. out of the NE cor. of tract, 3 miles SW of Nordheim near Karnes County line in the Robert Gallettry Sur.....T. D. 2,348 ft.; sticky shale.
H. T. Roe's No. 1 Leinhardt.....T. D. 2,215 ft.; working over rig.

DUVAL COUNTY

T. W. Callahan and W. M. Howard's No. 1 J. M. Luby, 3,960 ft. N line, 3,960 ft. W line Sur. 24.....T. D. 2,350 ft.; sand 2,331-46 ft.; tested gas and salt water; drlg.
Southern Crude O. P. Co.'s No. 1 John Dinn, 3,450 ft. S line, 119 ft. W line of Sur. 480.....T. D. 3,623 ft.; drlg. sand 3,618 ft.; salt water.
Southern Oil Co.'s No. 1 Welder Wood, Sur. 216.....T. D. 2,200 ft.; drlg.

EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 330 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G Sur. No. 25.....T. D. 3,425 ft.; drlg. hard black shale.
Griffith's No. 1 Wardlaw, 150 ft. from S line, 1,505 ft. from Sec. 60, Blk. US, J. J. Clift Sur.....T. D. 3,000 ft.; shut down, contract depth.

FRIO COUNTY

Walton & North's No. 1 Trebble, 150 ft. N line, 150 ft. E line, Sec. 64, in the Henry Castro Sur.....T. D. 3,560 ft.; abandoned.

FAYETTE COUNTY

Kelly et al's No. 1 E. M. Burke, in the C. J. A. Weaver Sur.....T. D. 488 ft.; abandoned.
Moore et al's No. 1 Kerr, 250 varas S of CNL of M Muldoon lease.....T. D. 2,485 ft.; shut down.
Muldoon Oil Co.'s No. 1 J. A. Kerr, 2,900 ft. from S, 3,250 ft. from W of M. Muldoon Sur., 2 miles W of Muldoon.....T. D. 1,300 ft.; drlg.; sidetracked at 3,206 ft.

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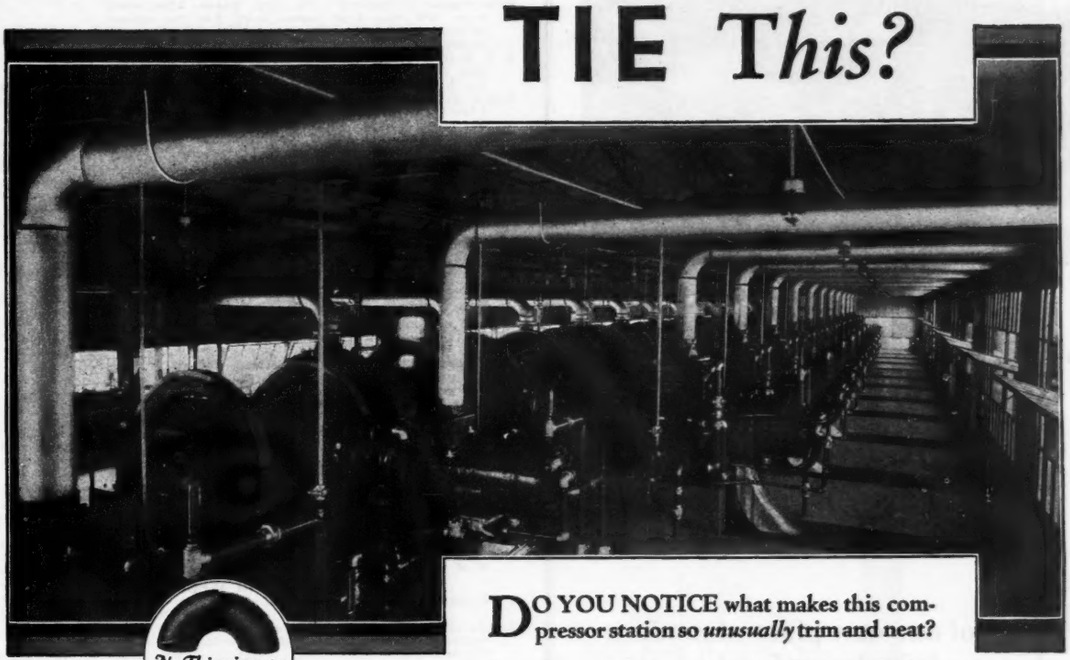

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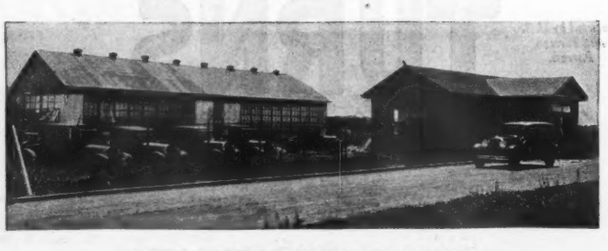

OFFICE AND EXTERIOR OF PLANT

Hoffer-Stanton's No. 1 M. E. Manton, 700 ft. from N line, 275 ft. from E line 102-ac. tract in the W. H. Taylor Sur., 8 miles NE from Muldoon ..... Location.

GOLIAD COUNTY

Humble Oil & Ref. Co.'s No. 1 Lackey & Weldon, 2,000 ft. from SE and SW lines of the Lackey & Weldon 1,000-ac. tract out of the most SW cor. thereof, in the Javiano Gomez Sur. ..... T. D. 4,150 ft.; fishing.

A. G. Riemenschneider's No. 1 A. T. Fromme, 275 ft. from N line, 912 ft. W line of 300-ac. tract, P. Dexter Sur. ..... Location.

Wm. F. Morgan's No. 1 Peirrie, 7,600 ft. SW of NE line, 2,550 ft. SW of NW line of Fannie Peirrie 2,350-ac. tract, SW part of county in the Vincente Ramon Sur. ..... T. D. 3,247 ft.; drlg. in shale and gumbo.

GONZALES COUNTY

Acme Oil & Royalty Corp.'s No. 1 Weber, Thomas Wright Sur. ..... T. D. 2,350 ft.; shut down.

Fitzsimmons & Perrinot's No. 1 Z. Huber, 2,100 varas from NW line, 1,450 varas from NE line (river) of survey, 2¾ miles SE of Darst Creek, in Stephen Smith Sur. ..... T. D. 3,317 ft.; abandoned.

A. J. Keiffer et al's No. 1 B. B. Dix, 5,550 ft. W of E line, 2,775 ft. N of S line (Guadalupe River) in the Ira Nash Sur., 4 miles SE from Darst Creek ..... T. D. 2,800 ft.; shut down.

Atibus et al's No. 1 C. Martin, 268 ft. from N line, 2,650 ft. W line 210-ac. tract in the M. A. Williams Sur. ..... T. D. 2,020 ft.; shut down.

Finnell & Elam's No. 1 J. F. Robinson, 2,000 ft. N line, 4,420 ft. E line, in the J. H. Livergood, 2½ miles NE from Waelder ..... T. D. 2,285 ft.; drlg. in sandy shale.

GUADALUPE COUNTY

Grayburg Oil Co.'s No. 2 Wells, 5,730 ft. E line, 2,490 ft. S line of NE cor. of Wells tract in the James D. Baume Sur., 6 miles SW from Darst Creek ..... Waiting on drilling rig.

Hadley et al's No. 1 Hartwig, 2,000 ft. S-N line, 930 ft. E-W line of survey, Wm. Hartung 656-ac. in the Richard Nixon Sur., 6 miles SW from Darst Creek .. T. D. 100 ft.; set 84 ft. of 10-in. csg.

Morgan Lewis et al's No. 1 Link (80 acres), 2,780 ft. E of SW line (Guadalupe River), 835 ft. from NW line of Link 80-ac. tract in the A. M. Esnaurrizar Sur., 7 miles NW from Seguin ..... T. D. 860 ft.; sulphur water; shut down.

Mid-Kansas Oil Co.'s No. 2 Waldrop, 750 ft. E from E line, 1,950 ft. from N line 330-ac. tract in the George Allen Sur., near Staples ..... Location.

Suttle et al's No. 1 A. Baenziger, 150 ft. from SE cor. of 125-ac. tract in the A. O. Mansola Sur., 5 miles S from Seguin ..... T. D. 2,075 ft.; drlg. in Georgetown.

Transcontinental Oil Co.'s No. 1 W. M. Dollie, 150 ft. from S line, 1,422 ft. from E line of 78-ac. tract in the E. Gotarie Sur., 5 miles SE from Seguin .... Spudded in.

Tidal Oil Co.'s No. 1 J. Seiligman, 150 ft. from N and E lines of the J. Seiligman 40 ac. NW cor. of J. H. Williamson Sur., 15 miles S from Seguin ..... T. D. 1,300 ft.; drlg. sandy shale.

JACKSON COUNTY

The Texas Company's No. 1 Mitchell, 1,750 ft. E, 880 ft. N of SW cor. Ewing Sur. ..... T. D. 2,403 ft.; drlg. in gumbo.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur. ..... T. D. 2,615 ft.; shut down.

KARNES COUNTY

Hewitt et al's No. 1 H. N. Matula, 450 ft. from E and center of NW and SE lines of 125-ac. farm in the Victor Blanco Sur. ..... T. D. 4,000 ft.; shut down.

J. F. Morrisey et al's No. 1 Ragsdale, 660 ft. SW of C of NE line of 170-ac. farm in the McCoull Sur. .... Derrick.

Mundine Investment Co.'s No. 1 A. D. Wilburn, C of 143 ac. in H. K. Hardy Sur., 3 miles SE from Dunge ..... Location.

Hewitt et al's No. 1 W. E. Porter ..... T. D. 3,650 ft.; shut down.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 728 ft.; csg. parted at 335 ft.

A. S. Mowinkle's No. 1 Kaston, 150 ft. from N line, 150 ft. from E line of tract, Sur. No. 724, 9 miles due W of Kendalia ..... Location.

Sitten et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T. D. 400 ft.; shut down.

Dickinson et al's No. 1 Edmondson, 150 ft. from S line, 350 ft. from W line of tract in the J. O. Blair No. 72 Sur., 1 mile NW from Kendalia ..... Moving on.

Seaboard Oil & Gas Co.'s No. 1 W. Asken, SW cor. of Sur. in the Miguel die Toro Sur., 3 miles N from Sisterdale ..... T. D. 1,090 ft.; waiting on 8-in. csg.; to shut off water.

Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... T. D. 1,500 ft.; Ellenberger lime.

F. B. Sterling's No. 1 Willie Weiner, approx. 800 ft. each way out of SE cor. of the J. C. Tarry Sur., 8 miles W from Kendalia ..... T. D. 914 ft.; building storage; will pump (old well reinstated).

F. B. Sterling's No. 1 McCracklin, 1,350 ft. from N line, 250 ft. from W line of the B. G. Owens Sur., 4 miles W from Kendalia ..... Shut down; to move in heavy rig.

KERR COUNTY

Mashe & Tunstill's No. 1 Love Ranch, 1,000 ft. from W line of Sec. 1,594, 100 ft. S of S line of Sec. 1,597, in the G.C.S.D.&R.G.N.G. Sur. ..... Rigged up.

KINNEY COUNTY

Magnolia Petroleum Co.'s No. 1, SE cor. of Bladz Sur., near S.P.R.R., close to Blume test on Wardlow ranch, W part of county, 2½ miles from Blume .... T. D. 1,385 ft.; drlg. in rock.

A. Blume et al's No. 2 Herbst, 1,731 ft. W and S lines of Sur., in the Poindexter-Burns Sur. ..... T. D. 275 ft.; shut down.

Mardon Oil Co.'s No. 2 Jim Clamp, in the John Winter Sur. No. 346, near No. 1 ..... T. D. 1,400 ft.; shut down.

KIMBLE COUNTY

Lindley Bros.' No. 1 Anderson, Sec. 178, Mubenger Sur. .. T. D. 990 ft.; shut down.

C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. ..... T. D. 685 ft.; shut down.

LASALLE COUNTY

Salt Lake City Pet. Co.'s No. 1 Beckwith, Sur. 17, 150 ft. S line, 150 ft. E line ..... T. D. 2,900 ft.; shut down.

Dougherty et al's No. 1 Jim Dougherty, 2,254 ft. SE of NW line, 750 ft. NE of SW line of M. Boren Sur. .. T. D. 505 ft.; drlg. in gumbo.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,445 ft. from S, 320 ft. from W of Sec. 116, Blk. 7, I.&G.N. Sur. ..... T. D. 2,636 ft.; shut down.

Rycade Oil Corp.'s No. 5 Chittim, 600 ft. W of No. 3 Chittim, 500 ft. E line, 225 ft. from S line of SE Sec. 115, Blk. 7, in the I.&G.N. Sur. ..... T. D. 3,560 ft.; drlg. in Edwards lime.

Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 82, Blk. 7, in the I.&G.N. Sur. ..... T. D. 4,990 ft.; gray lime; drlg

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts, in George C. Hanson Sur. ..... T. D. 1,350 ft.; drlg. in limy shale.

Pure Oil Co.'s No. 2 Nick Fohn, near CWL of Sur., 450 ft. S of No. 1 in the Amos Hudson Sur., 8 miles S from D'Hanis ..... T. D. 1,900 ft.; abandoned.

R. M. Perkins' No. 1 R. J. Taylor, 270 ft. from W line, 1,200 ft. from S line of 40-ac. tract in the S. Castro No. 136, 3½ miles SW from Hondo ..... Spudded in.

Pan American Pet. Co.'s No. 1 Antoine Hart, in Harrison Sur. No. 799, 15 miles S from Hondo ..... T. D. 1,157 ft.; shut down.

National Oil Co.'s No. 1 Howard, 1,750 ft. E of W line, 1,854 ft. N of S line of survey in the John George Sur. No. 9, 10 miles S of Dunlay ..... T. D. 300 ft.; set 200 ft. surface csg.; drlg. ahead.

Catherine Ryan's No. 1 H. Haas, 300 ft. from S line, 300 ft. from E line of tract in the J. Burleson No. 44 Sur., 12 miles W from Noonan ..... T. D. 1,506 ft.; drlg. Buda limestone.

Sun Oil Co.'s No. 1 Edgar, 450 ft. from E line, 150 ft. from S line of 320-ac. tract in the J. Buell No. 362, 3 miles N from Noonan ..... Spudded in; drlg. below 100 ft.

Sunflower Oil Co.'s No. 1 M. Modfield, 3,340 ft. from E line, 1,335 ft. S line of 640-ac. tract, Sur. 532, 10 miles S from Hondo ..... Spudded.

Donaldson Oil & Dev. Co.'s No. 2 Adams Co., James Hillenmeyer No. 25 Sur., 500 ft. to E line of Sur., 150 ft. to S line of N half of Sur. ..... Set 150 ft. surface csg.; drlg. ahead.

Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of Sur., 478.6 miles W from Devine ..... T. D. 400 ft.; drlg. in sandy shale.

NUECES COUNTY

H. Grimm et al's No. 1 A. R. Roberts, Blk. 79, Winter Vegt. Garden Subd., 6 miles NW of Robstown, 12 miles NE Agua Dulce Field ..... T. D. 3,535 ft.; dry and abandoned.

SAN PATRICIO COUNTY

George B. Pickett's No. 1 Baldwin, 9,000 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Neil Sur., Abstract 211 ..... T. D. 2,450 ft.; drlg. in gumbo.

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T. D. 3,050 ft.; shut down in sandy shale.

STARR COUNTY

Smith & Adams' No. 1 Welch, Perdernal Sur. ..... T. D. 841 ft.; standing.

UVALDE COUNTY

Waldrop & Welch's No. 1 H. S. Benson, 2 miles NW of Uvalde ..... T. D. 1,305 ft.; drlg. in lime rock.

Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S of Uvalde ..... T. D. 985 ft.; shut down; moving in heavier rig.

Phantom Oil Co.'s No. 1 Claudt, Sec. 611 ..... T. D. 1,725 ft.; drlg. gray lime rock.

VICTORIA COUNTY

Lion Oil & Ref. Co.'s No. 1 J. A. McFadden, 2,577 ft. W, 514 ft. N from NE cor. of C. O. Edwards tract in M. J. Traviesa Sur. ..... T. D. 3,106 ft.; sand 3,102-06 ft.; making drill stem test.

WILLACY COUNTY

Weimer-Richardson's No. 1 Elmore ..... T. D. 1,860 ft.; shut down in gumbo.

WILLIAMSON COUNTY

Harlem et al's No. 1 H. H. Stiles, in the J. Bevil Sur., 220 ft. N and 330 ft. E of Sur. ..... Rigging up.

Fred Beatty's No. 1 H. Bland, 450 ft. from N line, 1,000 ft. from E line of tract, in the P. Coursey Sur., 1 mile E from Taylor ..... T. D. 1,176 ft.; shut down.

Fred Beatty's No. 1 J. B. Pumphrey, 1,328 ft. from S and E lines of Mrs. J. B. Pumphrey 168-ac. tract in the W. Cartwright Sur. ..... Rigging up.

M. Bartlett et al's No. 1 R. E. Thomas, 450 ft. from N line, 170 ft. from E line of S 50 of 100-ac. of farm in the H. Owen Sur. ..... Spudded in.

E. L. Chapman's No. 2 J. H. McConnell, 1,070 ft. from W line, 150 ft. from N line of tract in the SJ Miller Sur. ..... Rigging up.

Elliot et al's No. 1 S. W. Jones, 600 ft. from W line, 400 ft. from S line of Alvert Nantz Sur. ..... Spudded in.

E. L. Chapman's No. 2 Fuchs, 150 ft. SW line, 750 ft. NW line of 93-ac. tract in the S. Miller Sur. ..... T. D. 1,000 ft.; drlg.

G. B. Peterman's No. 2 J. C. Abbott, 450 ft. from S and W line of Abbott 100-ac. tract, in the Simon Miller Sur., SE from Thrall ..... Rigging up.

Bridwell et al's No. 1 H. L. Martin, 1,150 ft. from N line, 150 ft. from W line of Simon Miller Sur. ..... Rigging up.

McNeil et al's No. 1 R. L. Abbott, 330 ft. NW line, 150 ft. NE line of Abbott 15-ac. tract, in the S. Miller Sur. ..... Spudded in.

Powell & Kykendall's No. 1 Christian Mager, in the W. Byerly Sur., 150 ft. N and 450 ft. E of farms of 150 acres ..... Old well deepening.

E. L. Chapman's No. 1 Barney Lawrence, 330 ft. from SE and SW lines of farm, in the Simon Miller Sur. .. Rigging up.

E. L. Chapman's No. 1 J. F. McConnell, 150 ft. from S and W of 100-ac. farm, in the Simon Miller Sur. .... T. D. 1,922 ft.; Serpentine; light show oil 1,900 ft.

E. R. Ertell's No. 1 J. F. McConnell, 295 ft. from N line, 180 ft. from W of S 50-ac. of 100-ac. farm, in the Simon Miller Sur. ..... T. D. 2,136 ft.; small oil show 1,100 ft.

Keeshan et al's No. 1 R. L. Abbott, 170 ft. from N line, 772 ft. from W line of farm, in the Simon Miller Sur. ..... Derrick up.

S. W. Marts et al's No. 1 R. L. Abbott ..... Spudded in.

Taylor Temple Oil Co.'s No. 1 F. M. Cain, 876 ft. from E line, 150 ft. from N line of C. D. Johnson 109-ac. tract, in the S. Miller Sur. ..... Rigging up rotary.

J. A. Thompson's No. 1 T. H. Martin, 150 ft. N and E lines of 20-ac. tract, in the S. Miller Sur. ..... Location.

Westheimer & Daube's No. 1 R. L. Abbott, 150 ft. from N and W lines of 57-ac. tract, in the S. Miller Sur. .. Location.

R. R. Wilder's No. 1 H. T. Martin, 158 ft. from N and E lines of H. T. Martin 76.25-ac. tract, in the S. Miller Sur. ..... Rigging up rotary.

L. W. Wilson et al's N. 1 W. L. Lawrence, 150 ft. from W line and C N and S of 35-ac. tract or 1,400 ft. from SW line, 1,450 ft. SW line of H. Owens Sur. ... Spudded in.

ZAPATA COUNTY

B. F. Nixon's No. 1 A. Gutierres, 170 ft. S line, 332 ft. E line, Lot 5, Blk. 8, Partition 10, Borrego grant .... Rigging up.

National Oil Co.'s No. 1 D. B. Adams ..... T. D. 690 ft.; shut down; lack of water; making considerable gas, blowout from shallow depth while pumping for water; laying water line.

ZAVALA COUNTY

Weigand Bros.' No. 1 W. L. Gates, Hooper & Wade Sur. No. 13, 1,320 ft. S of N line, 1,220 ft. W of NE cor. Sur., about 16 miles S of Batesville ..... T. D. 2,240 ft.; shut down.

Ike Pryor's No. 1 Pryor, 400 ft. N line, 400 ft. from E line George Vose No. 405 Sur., 4 miles NE from La Pryor ..... T. D. 1,100 ft.; set, 10-in. csg.; 250,000 ft. gas a day but will cement off.

Thomas T. Taylor's No. 1 Townsite of Delmonte, 600 ft. SE of city water works ..... Location.

Jack Baldwin's No. 1 J. R. Price, in the W. E. Erskin Sur. No. 34 ..... T. D. 1,180 ft.; drlg. sandy shale.

Southern Crude Oil Purch. Co.'s No. 1 Nat M. Washer, in the T. Pinckhardt Sur. No. 180, 1 deg. E, 6,795 ft. from SE cor. ..... T. D. 4,372 ft.; fishing for lost tools.

F. Baldwin's No. 1 Washer, 300 ft. S and E of Sec. 34, in the W. E. Erskin Sur. ..... T. D. 1,204 ft.; drlg. in sandy shale.

Announcing....

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GULF COAST FIELDS AND WILDCATS

(Continued from Page 52)

Humble & Valley's No. 3 Buchanan ..... Derrick.
Humble & Valley's No. 1-B Hardy (Waller County) ..... Repairing derrick 3,751 ft.
Humble & Valley's No. 2-B Hardy ..... Location.
Humble & Valley's No. 1-C Mitchell ..... Drlg. shale 1,856 ft.
Humble & Valley's No. 7 Payne ..... Derrick.
Humble & Valley's No. 8 Payne ..... Derrick.
Humble & Valley's No. 9 Payne ..... Cmt. csg. 87 ft.
Humble & Valley's No. 2 Sherrod ..... Derrick.
Humble & Valley's No. 4 Sherrill ..... Rigging up to pump.
Humble & Valley's No. 7 Thompson ..... Drlg. shale and lime 2,382 ft.
Humble & Valley's No. 7 Urban ..... Shut down 1,165 ft.
Humble & Valley's No. 8-A Walton ..... Drlg. shale 2,787 ft.
Humble & Valley's No. 3 J. W. Wilson ..... Comp. flowing 176 bbls. 3,510 ft.
Humble & Valley's No. 6 Woodley ..... Derrick.
Humble & Valley's No. 7 Woodley ..... Derrick.
Humble & Valley's No. 8 Woodley ..... Derrick.

DEWALT—FORT BEND COUNTY

Humble Oil & Refg. Co.'s No. 13 Brazos ..... Comp. flowing 415 bbls. oil 3,712 ft.
Humble Oil & Refg. Co.'s No. 10 Sugarland ..... Rig.
Humble Oil & Ref. Co.'s No. 10 Nelson ..... Drlg. shale 2,750 ft.

HUMBLE—HARRIS COUNTY

Benedum & Trees No. 1 Foley, south ..... Drlg. sticky shale 6,470 ft.
Dunbar & Deering's No. 1 Bennett, northwest ..... Location.
Houtex Oil Co.'s No. 1 Hirsch, northwest ..... Location.
Humble Oil & Ref. Co.'s No. 12 Williams ..... T. D. 5,186 ft.; reaming.
Rio Brave Oil Co.'s No. 1 fee, west ..... Comp. flowing 715 bbls. oil 3,795 ft.; T. D. 4,293 ft.
Sun Oil Co.'s No. 5 Bender, west ..... Location.
Sun Oil Co.'s No. 6 Bender, west ..... Drlg. shale and lime 3,087 ft.
Sun Oil Co.'s No. 7 Bender, west ..... Location.
Sun Oil Co.'s No. 48 River, north ..... Drlg. shale and lime 2,372 ft.
The Texas Company's No. 24 House, north ..... Bailing 3,968 ft.
The Texas Company's No. 42 Stevenson, south ..... T. D. 4,899 ft.; set screen 4,792 ft.; comp. flowing 38 bbls. hourly.
The Texas Company's No. 22 Wheeler & Pickins, northeast ..... Drlg. shale and boulders 4,321 ft.
The Texas Company's No. 1 Texas Pipe Line Co., west ..... Coring shale 3,844 ft.

BLUE RIDGE—FORT BEND COUNTY

Gulf Production Co.'s No. 18 Luscher, south ..... Rig.
Navarro Oil Co.'s No. 9-A Robinson, west ..... Drlg. gumbo and lime 3,421 ft.
Sinclair Oil & Gas Co.'s No. 1 Simms-Blakely ..... Sand and shale 5,651 ft.; set 6⅝-in. csg.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Production Co.'s No. 32 Taylor ..... Drlg. hard sand 4,020 ft.
Navarro Oil Co. and Texas Exploration Co.'s No. 19 Dooley, east ..... Rig.
Rio Brave Oil Co.'s No. 12-A Settegast (workover) ..... Drlg. sand rock 5,032 ft.
Rio Brave Oil Co.'s No. 18-A Settegast, west ..... Drlg. hard shale and lime 3,118 ft.
Rio Brave Oil Co.'s No. 19-A Settegast ..... Location.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 12 O'Brien ..... Oil sand 3,512-38 ft.; cmtd. 8⅝-in. csg. 3,502 ft.
The Texas Company's No. 7 Green, northwest ..... Rig.

HULL—LIBERTY COUNTY

The Texas Company's No. 8 Hannah-Vacuum ..... Set 195 ft. 4¾-in. screen 5,117 ft.; comp. flowing 100 bbls. pipe line oil.
The Texas Company's No. 2 Barrow ..... Rigging.

BIG CREEK—FORT BEND COUNTY

Gulf Production Co.'s No. 58 Davis ..... Drlg. gumbo 3,688 ft.
Gulf Production Co.'s No. 24 Davis (workover) ..... Comp. flowing 1,100 bbls. oil 3,624 ft.
The Texas Company's No. 2 Fee (workover) ..... Abandoned 3,992 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 11 Mayes ..... Abandoned 2,704 ft.
Pure Oil Co.'s No. 11-A Mayes ..... Location.
Pure Oil Co.'s No. 5 Lost Lake ..... Location.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 15 Wisdom (workover) ..... Cleaned hole 3,747 ft.; resumed drilling.

SOUR LAKE—HARDIN COUNTY

Austin & Penell's No. 1 Watson ..... Shut down 2,394 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 84 Cotton ..... Drlg. gumbo 148 ft.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 77 Simms-Smith ..... Standing 6,642 ft.
A. F. Bradbury's No. 5 Gillette ..... No report.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 51 McFaddin (workover) ..... T. D. 4,517 ft.; sidetracking.
Yount Lee Oil Co.'s No. 131 McFaddin ..... Comp. flowing 1,600 bbls. oil 3,389 ft.
Yount Lee Oil Co.'s No. 132 McFaddin ..... Drlg. 4,506 ft.
Yount Lee Oil Co.'s No. 133 McFaddin ..... Drlg. 4,420 ft.
Yount Lee Oil Co.'s No. 134 McFaddin ..... Drlg. 4,212 ft.
Yount Lee Oil Co.'s No. 135 McFaddin ..... Drlg. 3,900 ft.
Yount Lee Oil Co.'s No. 32 Gladys City ..... T. D. 4,026 ft.; sidetracking.
Yount Lee Oil Co.'s No. 45 Gladys City (workover) ..... No report.

WEST COLUMBIA—BRAZORIA COUNTY

Saxet Oil Co.'s No. 3 Hogg ..... Derrick.

NORTH DAYTON—LIBERTY COUNTY

Victor Oil Co.'s (V. H. Borsodi) No. 1 Gulf ..... Drlg. shale and lime 4,800 ft.
Victor Oil Co.'s (V. H. Borsodi) No. 2 Gulf ..... Drlg. sand and shale 4,768 ft.; set screen.
Houtex Oil Co.'s No. 1 Simmons & Brown ..... Drlg. lime rock 4,912 ft.
Harrison Oil Co.'s No. 5 Quintette ..... Location.
Houtex Oil Co.'s No. 1 Wilhite ..... Sand and shale 4,770-97 ft.; set 6⅝-in. 4,770 ft.
The Texas Company's No. 1 Paraffine fee ..... Comp. manifold 4,950 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 10 Smith ..... Drlg. hard sand 2,989 ft.
Marrs McLean's No. 18 Cade ..... Drlg. hard sandy lime and pyrites 3,040 ft.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 22 Moore ..... Drlg. sticky shale 3,774 ft.
Gulf Production Co.'s No. 21 Moore ..... Drlg. oil sand 3,995 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 5 Esperson ..... Drlg. gumbo and lime 5,232 ft.
Cranfill-Reynolds Oil Co.'s No. 9 Esperson ..... Drlg. hard sand 4,979 ft.
Cranfill-Reynolds Oil Co.'s No. 11 Esperson ..... Sandy shale showing oil; cmtd. 6⅝-in. csg.
Cranfill-Reynolds Oil Co.'s No. 12 Esperson ..... Location.
Cranfill-Reynolds Oil Co.'s No. 13 Esperson ..... Location.
Cranfill-Reynolds Oil Co.'s No. 4 Davis ..... Cmtd. 12½-in. csg. 60 ft.
Cranfill-Reynolds Oil Co.'s No. 1 Vajdak (workover) ... Drlg. 6,979 ft.
Republic Production Co.'s No. 1 Moores Bluff ..... Drlg. gumbo and lime 1,403 ft.
Yount Lee Oil Co.'s No. 3 Moore's Bluff ..... Drlg. shale and lime 4,976 ft.

HANKAMER—LIBERTY COUNTY

Gulf Production Co.'s No. 4 Boyt ..... Comp. flowing 1,200 bbls. oil 3,873 ft.
Gulf Production Co.'s No. 6 Boyt ..... Drlg. gumbo 2,290 ft.
Gulf Production Co.'s No. 1 Lee ..... Drlg. gumbo 3,139 ft.

BOLING—WHARTON COUNTY

C. S. Thomas' No. 1 Voiney ..... Rig.
C. S. Thomas' No. 1 Taylor ..... Rig.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 1 Kay ..... Preparing to make drill stem test 5,475-78 ft.
Houston Oil Co.'s No. 1 O'Brien, Block 5 ..... Drlg. hard lime 2,820 ft.
Houston Oil Co.'s No. 1 City, Block 20 ..... Waiting water 899 ft.
Houston Oil Co.'s No. 1 City, Block 59 ..... Location.
Houston Oil Co.'s No. 1 O'Connor ..... Cmtd. 13⅜-in. csg. 512 ft.
Houston Oil Co.'s No. 1 West ..... Drlg. hard lime and shale 1,841 ft.
Houston Oil Co.'s No. 1 Rose Lambert ..... Drlg. hard lime and shale 4,122 ft.
Houston Oil Co.'s No. 2 Rose Lambert ..... Rig.
Houston Oil Co.'s No. 1-A Fannie Heard ..... Drlg. hard sand and lime 1,890 ft.
Houston Oil Co.'s No. 1 Sitterle ..... Oil sand 3,682-88 ft.; cmtd. 8¼-in. csg. 3,680 ft.
Houston Oil Co.'s No. 13 P. H. Rooke ..... Drlg. sticky shale 1,928 ft.
Houston Oil Co.'s No. 7 Fannie Heard (workover) ..... Rig up to deepen.
Independent Oil & Gas Co.'s No. 2-C J. F. B. Heard ..... Gumbo 450 ft.; cmtd. 12½-in. csg.
Independent Oil & Gas Co.'s No. 1 Clint Heard ..... Derrick.
Independent Oil & Gas Co.'s No. 1 Mercy Academy ..... Oil sand 5,366-74 ft. and 5,446-54 ft.; cmtd. 8¼-in. csg. 5,354 ft.
Independent Oil & Gas Co.'s No. 1 Helen Reilly ..... Oil sand 5,656-65 ft.; setting csg.
Independent Oil & Gas Co.'s No. 1 M. F. Lambert ..... Drlg. lime 5,790 ft.
Independent Oil & Gas Co.'s No. 1 Tiny Hyser ..... Gumbo 463 ft.; cmtd. 12½-in. csg.
Edwin M. Jones' No. 1-A Mitchell ..... Location.
Edwin M. Jones' No. 1 Jeter ..... Comp. pumping 160 bbls. 3,696 ft.
Edwin M. Jones' No. 2-A Mitchell ..... Abandoned 3,743 ft.
Edwin M. Jones' No. 2-A J. F. B. Heard ..... Oil sand 3,646-49 ft.; cmtd. 6⅝-in. csg. 3,646 ft.
Larco Co.'s No. 5 Strauch ..... Derrick.
Luling Oil & Gas Co.'s No. 1 J. W. Kay ..... Rig.
Mission Drlg. Co.'s No. 1 Moss ..... Preparing to test oil sand 6,454-70 ft.
Mission Drilling Co.'s No. 1 Eliza Brown ..... Set 22 ft. screen 3,699 ft.; comp. flowing 800 bbls. oil on open line.
Mission Drilling Co.'s No. 1 Holmes Heard ..... Derrick.
Mission Drilling Co.'s No. 1 O'Brien ..... Drlg. hard sand 1,393 ft.
Morgan Oil Corp.'s No. 1 St. Johns ..... Drlg. lime 4,889 ft.
Moody-Seagraves Prod. Co.'s No. 2 O'Brien ..... Drlg. hard shale and lime 5,017 ft.
Moody-Seagraves Producing Co.'s No. 8 City ..... Derrick.
Moody-Seagraves Producing Co.'s No. 1-A O'Brien ..... Derrick.
Morgan Oil Corp.'s No. 1 O'Connor ..... Drlg. hard, sandy lime 3,520 ft.
Morgan Oil Corp.'s No. 2 O'Connor ..... Drlg. gumbo 1,265 ft.
Morgan Oil Corp.'s No. 3 O'Connor ..... Drlg. gumbo 1,552 ft.
Morgan Oil Corp.'s No. 4 O'Connor ..... Drlg. gumbo 640 ft.
Pearson Properties, Inc.'s No. 2 Ryals ..... Drlg. shale and boulders 2,761 ft.
Rutherford-Traylor Oil Co.'s No. 2 Cable ..... Gumbo 481 ft.; cmtd. 12½-in. csg.
Saxet Oil Co.'s No. 3 Cable ..... Oil sand 3,683-97 ft.; drlg. plug 3,680 ft.
Union Producing Co.'s No. 2 Lambert ..... T. D. 5,891 ft.; running tubing.
Union Producing Co.'s No. 3 Lambert ..... Coring sand 5,306 ft.
Union Producing Co.'s No. 4 Morgan-Vance ..... Drlg. rock 548 ft.
Union Producing Co.'s No. 4 Morgan-Shelly ..... Drlg. hard shale and lime 1,973 ft.
Union Producing Co.'s No. 4 O'Brien ..... Set screen 5,427-46 ft.; comp. flowing 900 bbls. oil on ⅝-in. and ¼-in. choke.
Union Producing Co.'s No. 5 O'Brien ..... Spudded.
Union Producing Co.'s No. 3 Powers ..... Oil sand 5,468-72 ft.; cmtd. 8¼-in. csg. 5,467 ft.
Union Producing Co.'s No. 4 Powers ..... Drlg. shale and lime 4,669 ft.
Union Producing Co.'s No. 2 Shelton ..... Drlg. shale and lime 5,285 ft.
Union Producin Co.'s No. 3 Mitchell ..... Oil sand 5,465-68 ft.; cmtd. 8¼-in. csg. 5,462 ft.
Union Producing Co.'s No. 4 Mitchell ..... Drlg. shale and boulders 3,506 ft.
Union Producing Co.'s No. 9 Fannie Heard ..... Oil sand 3,647-61 ft.; comp. flowing 500 bbls. oil choked.
Union Producing Co.'s No. 3 J. F. B. Heard ..... Derrick.

SOUTH LOUISIANA FIELDS
LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co. and Gulf Ref. Co.'s No. 26 Miller ..... Oil sand 3,790 ft.; cmtd. csg.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 27 Miller ..... Oil sand 4,382 ft.; cmtd. csg.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 28 Miller ..... Derrick.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 29 Miller ..... Moving in material.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 5 Freiberg & Wolf ..... Drlg plug 3,125 ft.; to test oil sand.
Vacuum Oil Co. & Gulf Producing Co.'s No. 7 Farquahar.. Rig.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 5 Caldwell ..... No report.
Gulf Refining Co.'s No. 1 Erwin ..... Building derrick.
Sun Oil Co.'s No. 1 J. H. Duhon ..... No report.
The Texas Company's No. 7 State ..... Driving piling.
Yount Lee Oil Co.'s No. 16 School ..... Sidetracking.
Yount Lee Oil Co.'s No. 1 Duhon ..... Rig.
Yount Lee Oil Co.'s No. 1 Portia ..... Rig.
Yount Lee Oil Co.'s No. 3 R. Vincent ..... Rig.
Yount Lee Oil Co.'s No. 4 Lacey ..... Location.

JENNINGS—ACADIA PARISH

The Texas Company's No. 5 Rayne heirs, King tract .. Fishing 8,045 ft.
Yount Lee Oil Co.'s No. 8 Houssiere-Latrielle, Section 47-9s-2w ..... T. D. 7,300 ft.; cmtd. 7-in. csg.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 50 Star-Vincent ..... Drlg. 3,629 ft.
Gulf Refining Co.'s No. 2 Gardner ..... Drlg. 709 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 5 Atchafalaya Fee (workover).... Sanded; to workover 4,341 ft.
Rycade Oil Corp.'s No. 1 Woodyard Lake ..... Drlg. sand 400 ft.
Rycade Oil Corp.'s No. 10 Bouillon Fee ..... Derrick.

STARKS—CALCASIEU PARISH

Adams Oil Co.'s No. 1 Roderick ..... No report.
J. O. Davis' No. 1 Industrial ..... Standing 3,775 ft.
Gulf Refining Co.'s No. 22 Lutcher-Moore ..... Cmtd. csg. 910 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 9 Yount Lee ..... Drlg sandy shale and shell 5,669 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Refining Co.'s No. 2-A Hoskins ..... T. D. 3,830 ft.; milling 3,826 ft.
Gulf Refining Co.'s No. 2 Lahaye ..... Drlg. 1,502 ft.
Alex Rice, trustee's No. 1 Futral ..... Drlg. 3,089 ft.
Alex Rice, trustee's No. 2 Futral ..... Location.
Alex Rice, trustee's No. 3 Futral ..... Location.
Pure Oil Co.'s No. 1 Perkins ..... Location.
The Texas Company's No. 7 Botney Bay ..... Sandy shale showing oil 3,400 ft. csg. cmtd.

MISCELLANEOUS WILDCATS
TEXAS
AUSTIN COUNTY

Black Oil Co.'s No. 1 Lancashire, near Sealey ..... Drlg. shale 3,500 ft.
O'Hara et al's No. 1 Batla, near Raccoon City ..... Fishing 4,000 ft.

BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur. ... Drlg. sticky shale 5,212 ft.
Mills Bennett Production Co.'s No. 1 Random, Allen .... Drlg. shale 5,233 ft.
Faust et al's No. 5 Faust ..... Sandy shale 4,083 ft.; cem. 6⅝-in. casing.
Layne et al's No. 6 Wisdom, Damon Mound ..... Drlg. sand rock 1,725 ft.
Rucks & Patterson's No. 1 Hunter, southwest of Hoskins.. Shut down 1,185 ft.
Rycade Oil Corp.'s No. 1 Rapid City, Henry Austin Sur.. Shut down for fuel 4,641 ft.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury ..... Salt 5,228-55 ft.; plug to oil sand 1,667 ft.; ran tubing; swabbing.
Shell Petroleum Corp.'s No. 2 Blakely Winston, Danbury.. Rig.
Steel & Strickland's No. 1 Lockridge ..... Spudded.
United Oil Syndicate's No. 1 Moores, Francis Moore Sur.. Drlg. gumbo 575 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Shut down 3,810 ft.
Shell Petroleum Corp.'s No. 1 Herff, Moss Bluff ..... Drlg. hard lime 5,297 ft.
Pure Oil Co.'s No. 1 Kirby, Charles Tilton Survey ..... Sandy shale 3,608 ft.; reaming.
Rycade Oil Corp. and Pure Oil Co.'s No. 1 Jackson, Oyster Bayou ..... T. D. 1,323 ft.; cmtd. 13⅜-in. csg. 1,305 ft.
Superior Oil Corp.'s No. 1 Jackson ..... Shut down 350 ft.

FORT BEND COUNTY

Gulf Production Co.'s No. 2 Brazos, Clodine ..... Drlg. sand and shale 4,440 ft.

GRIMES COUNTY

John Deering's No. 1 Rossi, B.B.B.&C. Sur. ..... Drlg. shale 2,415 ft.

HARDIN COUNTY

D. O. Speights' No. 1 Fee, near Batson ..... Drlg. gumbo 1,230 ft.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,247 ft.
Cranfill-Reynolds Oil Co.'s No. 1 Rorick, J. Ogburn Sur... Drlg. shale 3,125 ft.
Humble Oil & Ref. Co.'s No. 7 Warren, Hockley ..... Drlg. sand and shale 5,836 ft.
Humble Oil & Ref. Co.'s No. 1 Sladous, Mykawa ..... Drlg. sandy shale 5,407 ft.
Humble Oil & Ref. Co.'s No. 2 Minnetex ..... Standing 1,216 ft.
Sloan Prospecting Co.'s No. 1 Davis, Cedar Bayou ..... Spudded.
Strang Oil Co.'s No. 1 Good, Deer Park ..... Preparing to resume drilling 3,240 ft.
Martin, Drake & Jones' No. 1 Haney ..... Drlg. shale and lime 5,521 ft.

JACKSON COUNTY

The Texas Company's No. 1 C. A. Mitchell, G. Ewing Sur. ..... Drlg. shale 2,851 ft.

JEFFERSON COUNTY

Deep Test Oil Co.'s No. 1 McFaddin, Chaisson Sur. ..... Drlg. hard sand 4,355 ft.
Gulf Production Co.'s No. 5 Burrell, Fannett ..... Reaming 5,410 ft.
The Texas Company's No. 1 Fitzhugh, Big Hill ..... T. D. 5,863 ft.; sidetracking 5,607 ft.
The Texas Company's No. 3 Pipkin, Big Hill ..... Derrick.
Westbury Oil Co.'s No. 1 West, Choate Sur. ..... Drlg. gumbo 3,500 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 1 McFadden, Moss Bluff ..... Drlg. 4,537 ft.
Humble Oil & Ref. Co.'s No. 1 Sabine Tram, Devers ..... Shut down for high water 2,222 ft.
Tucker et al's No. 1 Bell, Devers ..... Derrick

MATAGORDA COUNTY

Cockburn et al's No. 1 Hawkins, Shepherds, Moit ..... Drlg. hard sand 5,588 ft.
Watts Oil Co.'s No. 1 Titus, Wheelright Sur. ..... Rig.

MONTGOMERY COUNTY

Kelley-Kaker's No. 2 Guerges ..... Shut down 1,915 ft.

ORANGE COUNTY

Gulf Production Co.'s No. 1 W. H. Starks, Port Neches .. Drlg. gumbo 2,790 ft.
The Texas Company's No. 2 Kuhn, Port Neches ..... Drlg. sticky shale 3,135 ft.
The Texas Company's No. 2 Stark, Port Neches ..... T. D. 3,734 ft. sand; reaming.

WALLER COUNTY

Kirby Petroleum Co.'s No. 2 Davis, San Felipe ..... Sandy shale 3,125 ft.; cmtd. 9-in. csg. 3,035 ft.
W. P. Morris' No. 1 Chapman, Donoho Sur. ..... Shut down 3,075 ft.

WASHINGTON COUNTY

W. Birdwell's No. 1 Schram, James Walker Sur. ..... Shut down 2,110 ft.
Clifton et al's No. 1 Pruiss, E. Alcorn Sur. ..... Rig.
Mid-Kansas Oil & Gas Co.'s No. 1 Johnke, A. Miller Sur. ..... Drlg. shale 1,881 ft.
Sun Oil Co.'s No. 9 Grote, Clay Creek ..... Drlg. sand and shale 2,195 ft.
Sun Oil Co.'s No. 4 Clay, Clay Creek ..... Drlg. shale 1,426 ft.
Sun Oil Co.'s No. 5 Hunt, Clay Creek ..... Location.

SOUTH LOUISIANA

ACADIA PARISH

Calcasieu Oil Co.'s No. 1 Hays, Sec. 10-8s-1w ..... Standing 6,629 ft.
Charles P. Sless' No. 1 Lyons, Sec. 4-10s-1e ..... Location.

CALCASIEU PARISH

Wilfred Lahay's No. 2 James ..... Standing 3,775 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 12 Watkins, Black Bayou ... Comp. flowing 680 bbls. pipe line oil on ¼-in. choke.
Shell Petroleum Corp.'s No. 15 Watkins, Black Bayou ... Location.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Cmtg. 7-in. csg. and screen 3,800 ft.

IBERIA PARISH

The Texas Company's No. 5 Vermillion Bay ..... Building derrick.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 4 Wilbert, White Castle ..... Set one joint 7-in. screen 5,175 ft.; comp. flowing 825 bbls. pipe line oil first 24 hrs. on 9-32-in. choke; gravity 24.1 degrees (corrected).
Standard Oil Co.'s No. 5 Schwing, Bayou Blue ..... Location.
Standard Oil Co.'s No. 5 Wilbert, Bayou Blue ..... Location.
Standard Oil Co.'s No. 6 Wilbert, Bayou Blue ..... Salt 3,026 ft.; to test sand at 1,975 ft.
Standard Oil Co.'s No. 1 Case, Bayou Des Glaise ..... Drill stem stuck 3,168 ft.
Standard Oil Co.'s No. 2 Case, Bayou Des Glaise ..... Location.

JEFFERSON PARISH

Humble Oil & Refining Co.'s No. 1 Delaware, Sec. 2-16s-23e ..... Building derrick.

JEFFERSON DAVIS PARISH

Pure Oil Co.'s No. 1 Marmetin, Lacasine Bayou ..... Location.
Shell Petroleum Corp.'s No. 1 Heyd, Iowa ..... Derrick.
Yount Lee Oil Co.'s No. 1 Courtney, Welsh ..... Drlg. 3,412 ft.
Yount Lee Oil Co.'s No. 1 Abbott, Welsh ..... Drlg. 3,301 ft.

LA FOURCHE PARISH

The Texas Company's No. 1 Leesville ..... Drlg. water sand 3,971 ft.

PLAQUEMINE PARISH

Humble Oil & Ref. Co.'s No. 1 Lake Washington, Lake Grand Ecaille ..... No report; T. D. 5,166 ft.; waiting 7-in. csg.
Humble Oil & Refining Co.'s No. 2 Cockrell-Moran, Lake Grand Ecaille ..... Location.
The Texas Company's No. 4 State, Garden Island Bay ... No report.

ST. LANDRY PARISH

Herbert-Baker Oil Co.'s No. 1 Fisher, Sec. 10-3S-4e ... No report.

ST. MARTIN PARISH

The Texas Company's No. 3 St. Martin, Hager ..... Rig.

ST. MARY PARISH

Pure Oil Co.'s No. 2 Wax Lake, Sec. 12-17s-9e ..... Drlg. sticky shale 3,482 ft.

TERREBONNE PARISH

Charles Paggi's No. 2 Evergreen, Sec. 145-15s-16e ..... Standing 1,818 ft.
The Texas Company's No. 4 State-Bay St. Elaine ..... Sand showing oil 5,171-82 ft.; cmtd. 6⅝-in. csg. 5,166 ft.
The Texas Company's No. 1 La. L. & E. Co., Bay Junope.. Drlg. water sand.
The Texas Company's No. 2 State, Lake Pelto ..... Drlg. hard sand 3,145 ft.
The Texas Company's No. 3 State, Caillou Island ..... Rig.
The Texas Company's No. 4 State, Lake Barre ..... Derrick.
The Texas Company's No. 2-A State, Dog Lake ..... Drlg. sandy shale 3,500 ft.

LA.-ARK. FIELDS

(Continued from Page 48)

Co., Section 36-8-13, dry at 2,550 feet, and Sabine Lumber Co.'s No. 1 fee, Section 31-8-12, dry at 2,610 feet.

Pelican Natural Gas Co. temporarily abandoned No. 1 Sabine Lumber Co., a wildcat in Section 1-7-12, at 2,833 feet, and got derrick up for No. 2 Sabine Lumber Co. in the NW SE Section 12-7-12, a quarter west of No. 1, which is 2 miles southeast of production. Loring Oil Co. cored sandy lime showing a little gas at 3,578 feet in No. 5 Bowman-Hicks, Section 34-8-12. A show of oil at 3,200-05 feet failed to produce. L. Nagle's No. 1 Corley, Section 31-8-12, is shut down for orders after it had bailed dry on a show of oil in the marl at 2,204 and 2,461 feet, overlying the chalk. Olsan Brothers are arranging to cement 6⅝-inch casing after a show of oil in the marl at 2,436 feet in No. 1 Ferguson, Section 33-8-12.

The Zwolle-Blue Lake picture was repeated in the Carterville district of Bossier Parish, where three operations, one of them, a location, were abandoned: E. W. Bateman's No. 1 Bollinger, Section 38-23-11, dry at 3,252 feet, and No. 2 on the same lease, a location; Louisiana Petroleum Corp.'s No. 3 Bain, Section 31-23-11, dry at 3,276 feet. Louisiana Gas & Fuel Co.'s No. 5 Thigpen & Herols, Section 13-17-12, Sligo district of Bossier, was completed, gauging 33,476,000 feet of gas at 976 pounds, total depth 2,447 feet as one of the best wells this area has ever produced.

Calatex Oil & Gas Co. completed No. 2-A Agurs in Section 7-16-16, Greenwood district of Caddo Parish, gauging 7,500,000 feet of gas with only a very little water and 1,100 pounds rock pressure at 2,951 feet. Like the Sligo well, this is one of the best wells recently completed in the Greenwood area and the owners immediately made locations for four more tests. Just before high water hit several of the Caddo fields, Shreveport Oil Corp. completed No. 5 Hicks, Section 32-21-15, Pine Island district, pumping 100 bbls. from 2,116 feet, and Standard Oil Co.'s No. 19 J. J. Hart, Section 34-21-16, Oil City district, made 90 bbls. from 1,836 feet. The Texas Company abandoned No. 72 Levee Board, Section 27-21-16, at 1,860 feet as a dry hole.

Five completions in Richland added 116,424,584 feet of gas to that field's total open-flow capacity. Arkansas-Louisiana Pipe Line Co.'s No. 4-B Sartor, Section 18-16-6, gauged 6,261,704 feet from 2,445 feet. Northern Louisiana Natural Gas Co.'s No. 1 Mulhern, Section 28-16-6, measured 44,628,880 feet at 560 pounds, total depth 2,444 feet. Richland Production Co.'s No. 1 Thompson, Section 22-16-6, tested 40,104,000 feet at 550 pounds, total depth 2,450 feet, and United Carbon Co.'s No. 1 Cooper, Section 24-16-6, made 17,640,000 feet from 2,450 feet. Greenwood Production Co.'s No. 1-B Guinn, Section 32-21-3, Union Parish, was the only completion in the Monroe Field. It gauged 1,908,000 feet of gas at 1,012 pounds, total depth 2,185 feet. Fred Stovall abandoned location for No. 1 Stovall in Section 32-23-4, Union Parish. Magnolia Petroleum Co.'s No. 2 Scroggins, Section 1-22-11, Sarepta district of Webster Parish, made 20 bbls. of oil and 250 of water from 2,707 feet.

There was only one completion in South Arkansas, J. D. Reynolds' No. 3 Berg, Section 27-15-15, Ouachita County, pumping 25 bbls. from 2,195 feet just in time for Smackover Creek to back up and take it off production. M. W. Greeson's No. 1 C. S. Parks, Section 21-8-24, Logan County, in the Arkansas Valley district, was dropped from the report as abandoned at 1,825 feet.

CALIFORNIA FIELDS

(Continued from Page 57)

to 8,239 feet but subsequently plugged back to 8,037 feet. The Rio Grande put No. 8 Stanke on a preliminary production test at 7,215 feet, but when it only showed an initial of 50 bbls. per day preparations were made to carry it on down. No. 7 Linden of the Sovereign Oil Co. was finished a few days ago flowing 71 bbls. of clean 30.9 gravity oil and 2,000,000 feet of wet gas daily from 7,270 feet. This well, however, may ultimately show a larger production of crude oil as the company will temporarily kill it and lower the tubing in the hope of stimulating production.

Completions in the Santa Fe Springs Field during the week were few in number and rather insignificant from a production standpoint. The Texas Company's No. 2 Lamb resulted in a 90-bbl. pumper after being plugged back from the Clarke zone at 7,990 feet to the Meyer zone at 4,540 feet. No. 1-A Peterson of the Wilshire Annex Oil Co. was only good for approximately 50 bbls. per day from the O'Connell zone at 6,450 feet but may clean up and subsequently show better production. In the Huntington Beach Field the Standard finished No. 12 Thompson, a new well pumping 205 bbls. of 21.9 gravity oil daily from the shallow sand at 2,796 feet. The Superior's No. 1 Babbitt in this field was recompleted flowing 351 bbls. of clean 26.1 gravity oil daily from 4,123 feet. In the Richfield district the Arrowhead Oil Co. completed No. 1 Francis pumping 109 bbls. per day from 4,724 feet. In the Potrero Field of Los Angeles basin the Richfield Oil Co. put No. 1 Hassen on a preliminary production test at 5,518 feet, and, although it flowed at the rate of 25 bbls. an hour, it was subsequently killed and a little more hole will be added.

Elwood

The Barnsdall and Rio Grande added a new well to their list of producers in the Elwood Field of Santa Barbara County when No. 16 Bell Luton was brought in flowing 3,385 bbls. of exceptionally clean 38.1 gravity oil daily from 3,381 feet with a 10¾-inch water string landed and cemented at 3,065 feet. A check of development work under way at the present indicates the probable completion of several additional producers during the course of the next several weeks, unless drilling operations are subsequently retarded. In the Rincon Field of Ventura County the General Petroleum recompleted No. 2 Ferguson, a tideland drilling project, flowing 1,105 bbls. of 28.6 gravity oil per day from 3,447 feet, the hole having been plugged back because of a gray sand encountered at 3,580 feet. This well is located out in the open ocean at the end of a 1,400-foot pier constructed for the purpose of facilitating development work. Several additional projects are scheduled to get under way on adjoining tideland permits shortly.

In the Ventura Avenue Field the Shell Oil Co.'s No. 53 Taylor came in prematurely during the course of a water test during the early part of the week, and, while this project was subsequently killed, it showed a potential of 510 bbls. per day from 4,145 feet. The next well scheduled for completion at Ventura Avenue is No. 11 Barnard of the General Petroleum which has been finished at 7,131 feet and completed with a 3-inch liner. W. D. Inskeep successfully completed No. 1 Meyer, a new well in the Summerland Field of Santa Barbara County, during the week and this project, which was bottomed at 1,535 feet and subsequently plugged back to 1,478 feet, is pumping 148 bbls. of 19.1 gravity oil daily. The completion of this well extends the proven limits of the Summerland Field several hundred feet northwest. The Sandoma Gasoline Co. is abandoning well No. 1 on State Permit No. 18 in this field due to the failure to develop commercial production and preparations are being made to quitclaim the lease in question.

HELIUM CONTROVERSY BETWEEN U. S. BUREAUS

WASHINGTON, D. C., May 26. — A contradiction of statements that the Bureau of Mines always has been able to supply the helium demands of the Navy Department was made before the House Mines Committee by Commander S. M. Kraus of the Navy Bureau of Aeronautics.

Testifying on the Englebright Bill to authorize $90,000 for completion of the Bureau of Mines helium plant at Amarillo, Tex., the commander took issue with Director Turner of the Mines Bureau, asserting that the navy had been forced to purchase helium from private companies to supply its needs.

Kraus said the Helium Co., a private firm from which the navy has acquired helium for use in lighter-than-air-craft, was encouraged by the department with the understanding that the navy would need a part of its output.

At the end of 1928, the witness continued, flying with helium-filled craft would have been stopped or seriously curtailed if the navy had been forced to depend solely upon the Bureau of Mines for its supply of gas.

WILLIAM BECK FATALLY BURNED

William Beck, 48 years old, of Tulsa, died May 21 of acid burns. Mr. Beck, who was superintendent for the Independent-Eastern Torpedo Co., was engaged in filling drums of nitric acid from a flow line. It is said that one of the drums exploded, throwing the acid over Mr. Beck's body, burning him badly. He was removed to a Tulsa hospital where he died the following day.

EMPIRE P. L. STATEMENT

The Empire Pipe Line Co.'s statement for April shows pipe line receipts of 1,876,393.38 bbls., daily average 62,546.45 bbls; deliveries 2,374,337.88 bbls., daily average 79,144.49 bbls.; stocks on April 30, 6,006,165.71 bbls.

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FOR SALE—8 Sweetland Filter Presses, No. 12, No. 10, No. 9, No. 7. No. 2; 1—300 H. P. Scotch Marine Boiler; Miscellaneous—Compressors. Storage Tanks, Pumps. CONSOLIDATED PRODUCTS COMPANY, 17-20 PARK ROW, NEW YORK CITY. BARCLAY 0600.

FOR SALE—Sweetland Filters, Nos. 2, 6, 9, 10; Kinney steam jacketed Rotary Pumps, 2", 3", 4"; Wax Filter Presses; Tanks; Compressors, etc. Stein Brill Corporation, 26 Cortlandt Street, New York. N. Y.

FOR SALE: Complete gasoline and steam rotary drilling rigs, rebuilt in A-1 condition at attractive prices, or will rent with option to buy. Texas Supply Company, 2016 Lorraine Street, Houston, Tex.

PUMPING STATION EQUIPMENT

2—20x33 Worthington Snow Oil Engines, directly connected with 2—5x18 Worthington Deane Pumps.
All auxiliary equipment, including air receivers, overhead cranes, etc. All steel sectional building.
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P. O. Box 592, Casper, Wyoming.

1—Fairbanks-Morse Type Z, 6 H.P. Water Pump. Good as new. D. Hansen, 504 Philtower, Tulsa, Okla. Phone 5-1342.

FOR SALE, CHEAP; Two Star drilling machines, No. 28 and No. 7, with tools. Address Booe and Stevenson, Chanute, Kans.

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3—Westinghouse 750 HP Gas Engines, direct connected to 3 G. E. 781 KVA, 3 Ph., 60 cyc., 600 volt Generators; 3—Westinghouse 600 HP Gas Engines, direct connected to 3 G. E. 500 KVA, 3 Ph., 60 cyc., 600 volt Generators. Low prices. Write Box E-206, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE: A complete diamond core drill; or will contract to do core drilling anywhere. Answer, Box E-207, The Oil and Gas Journal, Tulsa, Okla.

REBUILT FORDSON TRACTORS

FOR SALE: Two completely rebuilt Fordson Tractors equipped with bear cat hoists. Write Box E-208, The Oil and Gas Journal, Tulsa, Okla.

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WANTED: SUPER H OR D Fort Worth Spudder in first class condition. Must be bargain. Write Box E-186, The Oil and Gas Journal, Tulsa, Okla.

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Complete mimeographed list of all production superintendents, petroleum engineers and their assistants, including post office addresses and company with whom employed in the entire Seminole area. List compiled as of May 1, 1930. Will be mailed to you on receipt of $10. Address Randall Myers, Box 321, Seminole, Okla.

1,500-ACRE BLOCK, 2¼ miles east of Sun Oil Co.'s best wells. $5 an acre, 88 form commercial leases. Or will give block for well 2,000 feet for half interest. Come at once or send your geologist. This is almost proven territory. M. E. Fisher, Brenham, Tex.

WILL SELL A SPREAD of 35 royalties containing 1,000 full acres undivided over 38,314 acres in twenty-seven counties and three states. Three royalties already producing and three more with drilling wells just starting. All for $5,000 cash net. Greatest royalty bargain ever offered. Monthly income now averages about $40.00 but may soon be more than one thousand. D. M. Henry, City National Bank Bldg., Wichita Falls, Texas.

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303 Alberta Corner,
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$8.00 BUYS PART OIL 10 acres Oklahoma County. Big opportunity. Joe Milam, Oil Dept., Oklahoma City, Okla.

DRILLERS AND CONTRACTORS. ATTENTION: It will pay to investigate block of acreage in Hamilton County, Kansas. Good geology. Estimated depth 3,000 to 3,500 feet. For further particulars write H. L. Berngen, Room 509, 3146 Sheffield Ave., Chicago, Ill.

WISH TO HEAR from small oil companies with production and good possibilities who would be interested in merging with another to make a bigger unit operating company in Texas. Kindly send full particulars of your company. Write Box E-203, The Oil and Gas Journal, Tulsa, Okla.

ATTRACTIVE DRILLING proposition in new shallow Muskogee High-grade oil field. J. L. Haner, 105 McKibban Building, Muskogee, Okla. Tel. 467.

$10.00 buys deed part oil, 600 feet of drilling well. Joe Milam, Dept. Y-2, Oklahoma City, Okla.

ALMOST READY TO COMMENCE DRILLING 80 acres in Shakelford. Best shallow oil county in Texas. Many known sands 85 to 3,500 feet. Have complete equipment. Want partners $100 and up. Possibilities unlimited; not a promotion but a legitimate development by experienced and reliable developer; $5,500 combination, $2,500 only available. Several offset leases $10 per acre. Write or wire E. L. Stratton, Albany, Texas.

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WANTED—To sell from five to ten cars per week oil from Skimming Plants loaded at Sasakwa, Okla. W. M. Worthen, 305 Oklahoma Savings Bldg., Oklahoma City, Okla. Phone 2-3666.

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RECENT GRADUATE IN GEOLOGY wants job in which knowledge of geology is essential. Write 515 East Oklahoma, Blackwell, Okla.

GRADUATE GEOLOGIST: University of Michigan. Over two years' experience in geophysical prospecting and petroleum production, desires position with oil or royalty company. References. Write Box E-205, The Oil and Gas Journal, Tulsa, Okla.

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ENGINEER MARKET RESEARCH—Experienced designer and operator of refinery, gasoline plant, and oil field equipment wants position with manufacturer seeking or contemplating development of new lines; making market surveys, investigations and reports of new processes or devices, patent searches and applications. Have broad scientific training, highly developed commercial sense, inventive faculty, wide acquaintance in Mid-Continent Field. Correspondence with executives solicited. Address, Box E-199, The Oil and Gas Journal, Tulsa, Okla.

MECHANICAL AND CHEMICAL ENGINEER — Experienced for development, maintenance, construction or design of refining and gasoline plants, with oil company, engineers or manufacturer. Have sales experience and acquaintance throughout field. Write, Box E-200, The Oil and Gas Journal, Tulsa, Okla.

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Thirteen acres in heart Lost Springs (Kansas) Pool. Four producing wells near. Only reliable operators will be considered.

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20,000 ACRES, SOLID BODY, Western Jeff Davis County, Texas. Will make an oil lease for ten years at 25c per acre and 25c rental. Will sell in fee for four dollars per acre. Ranch well improved. Good geology.

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FOR SALE: 7,000-acre lease in south part of Nolan County, Texas, adjoining several major companies' holdings. R. M. Crabb, Sweetwater, Texas.

FOR SALE: 40 acres NW quarter Section 15, Township 17, South of Range 29 East, producing area, Eddy County, New Mexico. A. R. Hewitt, 1500 Upson Ave., El Paso, Texas.

ROYALTIES AND LEASES in the hot spots below Darst Creek Field, in Counties of Bexar, Bee, Wilson, Karnes, DeWitt, Goliad, Jim Wells and Live Oak in Texas. James R. Haynes, Grantville, Kansas.

LEASES—PRODUCTIONS

ECTOR COUNTY leases and royalty between Ector and Winkler pools, near Wurtz 4,000 ft. test now standardizing. Anderson, Linz Bldg., Dallas, Texas.

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ROYALTY all new fields. Texas, Kansas, Okla. Core drilled blocks. Salt Domes. Lists—maps. Paul Haynes, Grantville, Kans.

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PARTICIPATING royalties, leases in active area Stevens and Morton Counties. Also Beaver and Texas and Oklahoma interests. H. R. Mueller, Liberal, Kans.

ROYALTIES—PRODUCTION

ECTOR, ANDREWS, GAINES. Active area and wildcat royalty. C. H. C. Anderson, Linz Building, Dallas, Texas.

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STEVENS COUNTY and other Western Kansas Counties and Beaver County and other Western Oklahoma Counties royalties and leases.

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Classified Wants Section

Chicago Gasoline Movement Is Better

Improvement in Instructions Against Contracts. Many Jobbers Ordering in Anticipation of Memorial Day Sales. No Active Buying Reported

By J. B. Waldo

CHICAGO, May 26.—The gasoline movement was better in this market today than a week ago, the improvement being in shipping instructions against contracts. It would seem many of the jobbers were ordering against the Memorial Day sales. Quite a number of sellers reported they had sold a car or two more than a week ago but there was no active buying. The major refiners were holding for their 7½-cent spot price but the price in the open market ranged from 6⅝ to 6¾ cents and offers were made to sell at 6½ cents. There was no activity in the higher tests.

Kerosene was called for in only small quantities at last week's prices. Industrial gas oil continued to be offered at slightly less than 2¼ cents with only a light demand.

A light movement was noted in domestic fuel oils, distributors taking in occasional cars in contracts of the grades which are practically in demand the year round. Heavy industrial fuel oils were in light request and the market was unsettled by offerings of the wanted grades at new low prices. Sales were reported of 18-22 fuel oil in several instances at 52½ cents Group 3 basis. It is claimed for some of this oil that it comes from the Panhandle but not all of the oil at these and even lower prices comes from that field as some of it is truly distress oil which refineries have placed on sale at low prices to secure relief. Clear skies ruled for the most part over this district over the week end but the weather was too cold for large traffic although late in the day the number of cars on the road was large. Pennsylvania bright stocks are offered in this market at 35 cents, Pennsylvania points.

Gasoline Had Bad Week

Owing to a rather peculiar combination of conditions, the gasoline industry in this market had a bad week both as to volume and value of the business done. The demand was light and prices were easy and declined wearily as if the load was too great to be held any longer. One of the chief troubles was due to the fact that U. S. Motor gasoline had been sold for delivery over the last part of May at prices above the actual market at which the jobber could buy. Then the difficulty was to induce the jobber to give shipping instruction for the gasoline, ordered at a time when the outlook was favorable for a continued large consumption over May and for advancing prices.

The consumption did not hold but fell off as compared with April and as a result of this check to the orders, the prices did not hold. The lack of distribution seems largely due to unfavorable weather that has prevailed over so much of this territory. The owner of a popular station just a little way outside the county said that his business last week-end was only a little more than one-half that done by the same station the week previous. The head of a large jobbing concern in the central part of the state stated that his contract shipments had supplied him with all the gasoline he needed this month. As a rule these contract deliveries equal one-half his actual sales. The large distributors covering the entire territory admit that their gallonage has been badly shot during May to date and that the remainder of the month will have to be exceptionally good to make up for the poor first half of the month.

Refinery representatives and brokers have been active in trying to set gasoline orders or shipping instructions on old orders, but the resultant movement was light last week. In a great number of cases the jobbers stated that they had all the gasoline that they could care for. One well known independent jobber said he had cars on the track that he could not take in and that he had never paid out as much money in his business experience for demurrage as during the current month. These jobbers are independent of refinery control but in a great many instances they have contracts for a portion of the gasoline supplies.

Some argue that the best way to handle their buying is to have a marginal contract for about one-half their requirements and with this much gasoline assured, they can buy for their additional needs, they can buy for their additional needs in the spot market. It is most likely that with many jobbers their contract shipments during the last few weeks have been sufficient to supply their sales possibly with some little drawing on their stocks.

There is a difference of opinion regarding the reductions that have been made in stocks during the last few weeks. Meanwhile the refiners who have the gasoline ready to ship find themselves with full tanks, their tank cars loaded and no place to ship the gasoline. Several refiners stated in this market last week that they would be obliged to close down their plants unless they could obtain immediate relief.

Impossible for Price to Hold

Under such a buyers' market it was impossible that prices should hold. For the most part the major refiners are still naming 7½ cents Group 3 although the Transcontinental Oil Co. has a price of 7 cents Group 3. This price went into effect a week ago last Friday and if the market had held it would have brought in some orders, but the quotations made by other sellers of gasoline have been so much lower that the reduction has not materially increased the business of the company, at least at this office. There is little indication that any of the major refiners are cutting their prices. As it is they are feeling the effect of the lower market in their contract prices which are now averaging around 7 cents as against 7.30 cents a week or so ago.

The trade was offered gasoline stated to be first class Oklahoma material with full U. S. Motor specifications early last week at 6¾ to 7 cents but as the week advanced this price was reduced until towards the close 6⅝ cents became a common quotation and occasionally on some worth-while business 6½ cents Group 3 was quoted. These excessively low prices were made possible through some refiners who told the sellers to get the order and they would take whatever price the sellers of the gasoline could afford to pay. Some buying in anticipation of the large gallonage of Memorial Day is expected but the extent of this demand must depend in a great measure on the weather.

Unsettled Owing to Competition

The situation to the East and particularly around Detroit continues unsettled as the result of extreme competition. One thing that is making the situation there worse than usual is that in the Canadian provinces there has been an excess of rain, reducing the gasoline demand and cutting into the export business to Canada. The price of 10 cents for U. S. Motor gasoline delivered Detroit has been common but on competitive orders lower prices are commonly quoted. Last week a bid of 6¼ cents Group 3 was rejected as too high. The order actually went at a price below 6 cents Group 3.

In the Chicago district local refiners are competing for the tank car orders of the trade and a jobber who is fortunate enough to have his own siding can buy in tank car lots from any of the local plants at prices which will save him money under usual conditions as compared with Group 3 costs.

The demand for the higher tests was so light last week as to be almost nil. The antiknock gasolines are taking the place of the higher tests. Many of the refiners who are putting out Ethyl Gasoline use a 60-62 400 endpoint as the base with which to blend the Ethyl fluid and there are a few who use the 64-66 375 as their base gasoline. Natural gasoline has been fairly active and rather firmly held in this market as more of the Texas and similar naphthas are being blended with natural to produce a summer motor fuel of a little lower cost.

Kerosene Moving Slowly

Kerosene is moving slowly and irregularly in an ordinary seasonal demand. The tractor season is gone completely and as it developed it turned out to be as much of a distillate season as a kerosene season. Even now there are occasional calls for cars of 38-40 prime white distillate, evidently wanted for some kind of tractor fuel. Road builders use many tractors but they usually buy as fuel some make of gasoline which has proven to work well in their engines. Several refiners are now naming 4 cents direct to the trade for their 41-43 water white kerosene. Some are asking more but the bulk of the movement is at an average price of 4 cents.

Domestic burner oils are out of the picture as such. There is an occasional call for distillate for a special purpose and some of the smaller oil-burning plants use a light fuel or a gas oil the year round being supplied by tank wagon deliveries. But these requirements are for power rather than heat. There do not seem to be any excessive stocks to be pressed for sale and prices while having an easy tone show little change in the limited business recorded. There is nothing new in the contract business. Many of the distributors have made some form of agreement with their former source of supply and will work out the prices at the time of the demand. They are protected to some extent by a maximum price while the seller has protection in a minimum price. Within these prices the actual cost of the oil to the buyer is to be determined at the date of shipment.

Sales for Cracking Purposes

Some sales of straightrun gas oil have been made here during the week for cracking purposes. They apparently did not indicate any general increase in the activity of the cracking demand, but the trade here realizes that there are large producers of gasoline who are usually large buyers of gas oil and light fuel oil, if of the right kind, for stock for their cracking plants and that if these begin to buy in quantities it will entirely alter the complexion of the market. Right now the market is quiet for straightrun gas oil and prices show little strength.

Last week two bids of 2¼ cents were rejected by industrial buyers as too high, yet this price is supposedly the low of the market for a good 32-36 straightrun gas oil. Some 30-34 gas oil was offered here at 2⅛ cents. The demand shows no improvement. The gas companies are restricting their buying, evidently hoping for lower prices than they already are being quoted. There is little industrial demand outside of the utility companies.

Heavy industrial fuels continue to move slowly with little new business coming to hand. Inquiries are not numerous and are for small quantities. Some of these seem to be for the purpose of sounding out the market as in response to bids the buyer will state that they have decided not to buy at present.

There is heavy residual oil seeking a market and much of it is desirable oil if the user is equipped to burn it properly. There are many more heat units in this heavy oil than in the lighter grades of fuel oil and refiners say that they ultimately will find a market for their production. Today some of it is being sold at prices that will not net the refiner more than 25 to 30 cents at the refinery, but this is an exceptional price made on long contracts for quantities. Regularly this heavy residual oil with a viscosity that permits its use under fairly favorable conditions is selling at between 45 and 50 cents Group 3 basis.

Sulphur Content Affects Demand

The chief demand is as usual for a free flowing 18-22 fuel oil without too much sulphur. For some purposes the amount of sulphur content is really of no consequence and this is true when the oil is used for the generation of steam, but in many industries the presence of an excess of sulphur is barred for one reason or another. Several local sources of supply are quoting a price of 57½ cents for their oil of this grade and others 55 cents. Even at these prices the market has a distinctly weak undertone. Buyers seem pessimistic regarding their future needs and are buying only what they feel sure that they will be able to use.

The price of Pennsylvania bright stocks has been reduced until some of these have been offered in this market at the price of western bright stocks. There have been slight breaks in the prices asked by western refiners usually with excuses such as an unusually high cold test or some reason why the oil might not be considered as of quite as high value as the products of other refineries. The demand right now is narrow and while sellers say that there is business to be had they also say that one has to go right out and get it.

There is little activity in lubricating oils of any kind even motor oils being quiet. The industrial demand is not good. Most of the regular kinds are sold by local refiners with their policy of charging the same price f.o.b. Chicago as the Tulsa refiners ask for Group 3 delivery.

There have been no new developments of any note in the distributing situation. The Standard Oil Co. has reduced the quantity of gasoline required to obtain the highest Q.D.A. discount on monthly sales of gasoline from 100,000 gallons to 75,000 gallons. This change applies to the territory outside of Chicago as that was the quantity required inside the Chicago district. The maximum discount is 4½ cents outside and 5 cents within the Chicago district. Jobbers, while stating that their gallonage is light, do not make much complaint, saying bad weather must be expected each spring and the earlier it comes the less harm it really does. They are hopeful of a good gasoline season which really begins when the schools close and touring and evening driving are the rule.

OIL FIELDS IN UNITED STATES

Dr. Walter A. Ver Wiebe, professor of geology, University of Wichita, Wichita, Kans., has just written a book entitled "Oil Fields in the United States," which describes in a scientific way all the oil fields of this country. This book brings together in one volume very recent geological data of these fields and is intended as a textbook for students as well as a reference book for practicing geologists and engineers. It is very complete in its detail and after each particular area there is a selected bibliography. The book is published by McGraw-Hill Book Co., 370 Seventh Avenue, New York City, and sells for $7 per copy.

Gasoline Has Steady Markets in East

Favorable Weather Makes for Heavy Consumption and Current Volume Is Running at Highest Levels Recorded This Year

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, May 26.—Steady markets for gasoline, with continued expanding demand, featured the East Coast trade in refined products again this week. Continued favorable weather has made for heavy consumption, and current volume is running at the highest levels attained so far this year.

Pronounced weakness in Pennsylvania stocks has been the only development of interest in the remainder of the market, although kerosene has softened further with an early cut in refinery markets in prospect.

Although the statistical position of the petroleum market has been showing improvement during the last few months, there is evidently still a little uneasiness in some quarters, with a tendency to go ahead slowly pending further developments. The crude production situation has become fairly stable, aside from the Pacific Coast, but refined products markets, although much better now than at any time previous in 1930, taking the country as a whole, still show room for improvement. The netback to refiners on sales of products is not as yet satisfactory in all instances, although in the East Coast area the recent 10-cent advance in fuel oil has tended to improve the earning position of most refiners.

Tank Car Gasoline

Prices in principal East Coast markets continue to range 9 to 10 cents per gallon, tank car lots, at refineries, with a good movement noted. Jobbers are ordering forward stocks in good volume, and some inquiry has developed for June contracts on the basis of present prices. Sellers are willing to book for the first 15 days of the coming month at current levels, but are not inclined, in all instances, to sell for all June at these levels.

Distributors are showing marked confidence in the market position and there is a general disposition among the jobbers to keep storage full. Some distributors, who adhered to their hand-to-mouth policy too long, were forced into the market to buy spot gasoline from other than their regular sources of supply as a result of the heavy demand which has developed in recent weeks.

Jobbers are showing a pronounced tendency to get behind premium grades of gasoline, and tank car shipments of premium qualities at the present time are substantially in excess of those at this time last year, with every indication that the trend toward the higher priced fuels will become still more general.

In regard to the price outlook in eastern seaboard markets, present indications are that the upward movement this year will be gradual, and that every effort will be made to avoid any advances which cannot be sustained. Leading interests here are watching the situation closely, taking into account the larger receipts of California and South American gasolines in determining their pricing policies. From a competitive standpoint, marketing conditions here are more favorable than for some months back, many of the competitive practices which the industry generally frowns upon having been eliminated.

Tank Wagon Gasoline

Markets are strong, with a general price increase still believed to be but a matter of a short time, and the trade looking for such an advance almost daily. Current sales are substantially ahead of those for last year at this time, and are picking up steadily from week to week.

Marketers in this area are showing general interest in reports that the "Conoco" signs of the Continental Oil Co. are soon to be a common sight in this territory, and there is considerable interest shown as to whether Continental will come into the East with a direct marketing campaign or through consolidation or purchase of existing marketing organizations. Reports from usually well informed quarters indicate that it will be the latter.

Kerosene

The market is in weak position and an early downward scaling of the posted price basis is looked for. Leding refiners are still quoting 7¾ cents per gallon in tank car lots at the refineries, but business is being freely done at 7¼ cents and some water white is reported available at 7 cents per gallon.

Refinery holdings of kerosene in the eastern area are rather large and with export buying continuing of limited volume, refiners are anxious to cut down their stocks. Refiners operating on the seaboard are meeting with stiff competition from Pennsylvania in markets where freight rates give the latter a "break" and there is considerable price shading being done on this type of business.

The tank wagon kerosene situation is without change, save that demand is rather sluggish, having eased off in consequence of the generally warm weather experienced throughout the East this week.

Paraffin Wax

While no further price changes have materialized on paraffin wax during the week, the market continues in easy position, with prices more or less nominal. Refinery holdings are still top heavy, and it is a buyers' market in almost every respect.

Refiners are shading prices on both crude scale and fully refined grades, and this, far from stimulating demand, is causing buyers to hold off the market still more, in anticipation of more substantial recessions in asking prices. Domestic buyers, although carrying but light stocks, are nevertheless adhering closely to a hand-to-mouth buying policy, and the same still holds true with respect to export operators.

Gas Oil

Sluggish demand is reported, with the posted price for 28 plus oil held unchanged at 5¼ cents per gallon, bulk, refineries, and most of the current volume going through at a quarter to a half cent per gallon under this figure.

Industrial consumption has been adversely affected by the lighter demand from manufactured gas companies, while domestic sales are also on the decrease as warmer weather makes home heating no longer necessary.

There is some talk heard in the market regarding a possible cut of one-quarter cent to 5 cents per gallon in the posted price for gas oil here, but thus far nothing definite has developed in that connection.

Lubs

Further easiness has developed in the market for cylinder stocks this week, and prices are lower all along the line. Buyers are operating only in extremely limited fashion, and the market is more or less nominal as to price. The general sentiment among buyers is still bearish, with further price declines looked for, and this feeling is naturally not conducive to much forward buying. Conditions in world markets have been such that the export demand for lub oils has been seriously affected, operators state.

Spot 600 steam refined is reported available this week at 29½ cents per gallon, with 635 quotable at 31½ cents and 650 at 35½ cents a gallon, reductions of 1 cent on all grades. The market for 600 Pennsylvania flash is nominally quoted at 38½ cents, with 630 flash at 41½ cents, down a half cent per gallon in each instance. On 600 Warren E the market is off a half cent at 37½ cents per gallon, with Oil City E at 36½ cents per gallon, reductions of one-half cent on each grade. Bright stocks are sharing in the general softness, with light 140-150 quoted at 47 cents and dark at 45 cents, down 1 cent per gallon on each grade. It is reported that bright stocks can be shaded still further, this grade having met with relatively little movement and refiners consequently being anxious to move out excess stocks. The latest cut in Pennsylvania crude oil prices has tended to still further weaken buyers' confidence in the market position of cylinder stocks.

Red and pale oils continue in fairly steady position, with refiners here reporting a good movement. Car lot shipments are holding up, and contract withdrawals are up to expectations for this season of the year. Quotations remain unchanged on all grades. Some export buying of red and pale oils is reported here, but the bulk of this movement at the moment is out of the Gulf.

Fuel Oil

Conditions are unaltered in the bunker oil situation locally. Refiners continue to quote $1.15 per barrel, in bulk, at refinery terminals, and a good contract movement is reported. Domestic consumption is showing seasonal quiet.

Reports from Mexico showing a widening of activities in production on the part of a number of companies indicate the probability of an early increase in volume of fuel oil imports from that country, but refiners do not anticipate any sharp immediate gain, and believe that the larger imports will be absorbed without market disturbance.

The Gulf fuel oil market remains in strong position, with sellers asking 80 cents per barrel. Fuel oil at Panuco is quoted around 76 cents per barrel, taxes included.

The sharp drop in crude oil prices in California is not expected to bring about any marked increase in shipments of Pacific Coast fuel oil to the East Coast, owing to the continued high market for tankers and the scarcity of bottoms for the intercoastal trade.

Diesel Oil

Steady demand for Diesel oil is reported this week, the market holding firm and unchanged at $2 per barel, bulk, at refinery terminals. Contract movement is holding up well, with sales thus far in the year considerably in excess of those for the comparable period last year.

While marine sales of Diesel oil continue to account for the bulk of the movement, refiners are beginning to devote more attention to domestic sales, with indications of consistent improvement in the domestic field as the use of Diesel motors in stationary power plants and for other purposes shows a steady increase.

Gulf Export Market

According to unconfirmed reports in the local market a cargo of 9,000 tons of gasoline was booked at the Gulf this week, comprising 1,500 tons of Navy, 1,000 tons of 390 endpoint gasoline, and the balance of 64-66 gasoline. The Navy and 390 endpoint gasolines, according to the report, were sold at posted prices, but the 64-66 was booked at a half cent under the posted basis, and for this reason efforts were being made to cancel the contract, market reports had it.

One of the large companies booked a cargo of 1,500 tons of kerosene and 3,000 tons of 64-66 gasoline for shipment to its French marketing subsidiary, at posted prices, and another large company with a French marketing subsidiary sold the latter a mixed cargo comprised of 700 tons of water white kerosene, 700 tons of standard white, and 2,000 tons of 64-66 gasoline, all at posted prices.

European buyers are in the market for at least six cargoes at this time, it is reported, and it is expected that at least some of these cargoes will be closed within the next few days.

Fuel oil continues held at 80 cents per barrel in cargo lots at the Gulf. One buyer who was in the market endeavoring to contract over 1931 was unable to obtain offers for this distant position.

Charter Market Up

The market for clean tankers for intercoastal movement of gasoline has strengthened appreciably. The current rate is $1.17 per barrel, which contrasts with 95 cents per barrel at which fixtures were recently made.

This development, it is expected, will prevent any material expansion in the movement of Pacific Coast motor fuel to the eastern seaboard. Some interests had feared that the sharp cuts in California crude oil prices would be followed by an immediate quickening of the movement of California gasoline into eastern markets. Scarcity of bottoms and high charter rates, it is now apparent, will prevent any such contingency.

Petroleum Exports

There were no developments out of the ordinary in the week's export movement. Small-lot trading was evidenced by shipment figures, with aggregate exports for the week considerably under those of the previous week.

European buying of bulk naphtha is largely going to the Gulf and to California, with bulk movement out of the local port having fallen off. A continued good demand for cased gasoline is reported, however, while buying of cased kerosene continues routine.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week Ended		
	May 17	May 10	May 3
Gasoline	180,000	61,000	220,000
Naphtha	686,000	847,000	964,000
Kerosene	19,000	41,000	50,000
Fuel oil	485,000	120,000	10,000
Lubricating oil	1,219,000	1,479,000	1,240,000
Petroleum, refined	505,000	1,527,000	1,758,000
	Pounds		
Petrolatum	.....	59,000	38,000
Paraffin wax	590,000	1,588,000	1,050,000
Refined	.....	.....	846,000
Scale	875,000	961,000	1,125,000
Lubricating grease	316,000	1,045,000	1,095,000

Easier markets for cylinder stocks have stimulated export lub oil demand somewhat, but pending a firming up in the market position or some definite indication that prices have reached bottom, export buyers are reluctant to take hold of the market in substantial fashion, and actual business therefore continues confined to relatively small quantities.

Imports

Imports of crude and refined oils at the principal United States ports for the week ended May 17 totaled 2,253,000 bbls., a daily average of 321,857 bbls., compared with 1,931,000 bbls., a daily average of 275,857 bbls. for the previous week and a daily average of 287,392 bbls.

(Continued on Next Page)

for the four weeks ended May 17. Details follow:

(Barrels of 42 Gallons)

At Atlantic Coast Ports—	
Baltimore	239,000
New York	1,443,000
Philadelphia	265,000
Total	1,947,000
Daily average	278,143
At Gulf Coast Ports—	
Galveston district	79,000
New Orleans and Baton Rouge	227,000
Total	306,000
Daily average	43,714
At all United States Ports—	
Total	2,253,000
Daily average	321,857
Daily average four weeks	287,392

Distribution of total imports is as follows:

Crude	1,619,000
Gasoline	323,000
Gas oil	61,000
Fuel oil	250,000

South American gasoline is finding its way into East Coast markets in slightly better volume, but is being readily absorbed into regular distributing channels, without disturbing the price situation in this area. The same conditions is said to obtain at the Gulf.

California Oil Receipts

Receipts of California crude and refined oil at Atlantic and Gulf Coast ports for the week ended May 17 totaled 612,000 bbls., a daily average of 87,429 bbls., compared with 263,000 bbls., a daily average of 37,571 bbls. for the previous week and a daily average of 65,500 bbls. for the four weeks ended May 17. Details follow:

(Barrels of 42 Gallons)

At Atlantic Coast Ports—	
Boston	167,000
New York	445,000
Total	612,000
Daily average	87,429
At Gulf Coast Ports—	
All ports	None
At Atlantic and Gulf Coast Ports—	
Total	612,000
Daily average	87,429
Daily average four weeks	65,500

Distribution of total California oil receipts is as follows:

Gasoline	455,000
Gas oil	62,000
Fuel oil	95,000

GULF COAST FIELDS

(Continued from Page 52)

this being No. 4 Boyt, which extends the field 1,000 feet to the north. The well is flowing an estimated 1,200 bbls. of oil with a small amount of fresh water from a sandy shale at approximately 3,875 feet. All the producing wells are in the Amos Allen Survey, and with the exception of one, No. 5 Boyt, have been drilled in an almost straight line north and south.

Refugio Completions

Refugio's fifteenth deep sand producer was completed at the close of the week in Union Producing Co.'s No. 4 O'Brien. This well, in the 5,500-foot sand at 5,427-46 feet, came in flowing 900 bbls. daily on a three-eighths and a quarter-inch choke with a pressure of 500 pounds. Not including No. 1 O'Brien, which has been localized within a group of salt water wells some distance to the northwest, No. 4 O'Brien extends the narrow line of 5,500-foot producers several hundred feet to the northeast.

One of the most interesting developments at Refugio during the week was the finding of oil sand at 5,656-65 feet in Independent Oil & Gas Co.'s No. 1 Helen Reilly, Lot 10, Block 3. The sand at this depth and in the area in which the well is located has caused some speculation whether it is an entirely new stand or whether it indicates a peculiar unconformity. The well is in the old part of the Refugio gas producing area or at a high point in the 3,500-3,700-foot horizon but yet the deep sand which it has encountered is 200 feet lower than the 5,400-5,500-foot producing horizon which is being developed over a mile to the east and south. If the sand is the same, the dip in the 5,500-foot sand runs from the east to the west while that in the 3,600-3,700-foot horizon runs from the west to the east. Casing has been run to test the sand.

Two 3,700-foot horizon wells were reported completed at Refugio, these being Union Producing Co.'s No. 9 Fannie Heard, flowing 500 bbls. at 3,649 feet and Mission Drilling Co.'s No. 1 Eliza Brown, estimated at 800 bbls. at 3,699 feet, the latter being on an open line. Mission Drilling Co.'s No. 1 Moss, Block 110, in the northeast portion of the town lots, which has been watched as a key test for the 6,400-foot sand, at the close of the week still had not tested a sand at 6,454-6,470 feet, on which casing has been standing cemented. This well, as previously stated, is in a strip of undrilled territory immediately between the eastern edge of the 3,700-foot field production and the string of deep wells in the 5,500-foot sand. It is some 4,500 feet to the southwest and closer in to the main development than Union Producing Co.'s No. 1-A Rose Lambert, which discovered production in the 6,400-foot sand. The latter since has been abandoned.

Completions

Completions the past week, in addition to those mentioned, included Yount Lee Oil Co.'s No. 3 Phillips, southeast side of Barbers Hill, 1,450 bbls., 5,306 feet; Humble Oil & Refining Co.'s No. 13 Brazos, DeWalt, 400 bbls., 3,712 feet; Yount Lee Oil Co.'s No. 131 McFaddin, 400 feet northwest of production on the south side of the dome, Spindletop, flowing 1,600 bbls., 3,389 feet; Rio Bravo Oil Co.'s No. 1 fee, west flank of Humble, 750 bbls., 3,795 feet; The Texas Company's No. 42 Stevenson, Humble, 800 bbls., 4,792 feet; Shell Petroleum Corp.'s No. 12 Watkins (former well deepened), Black Bayou, 680 bbls., 5,321 feet; Humble Oil & Refining Co.'s No. 3 J. W. Wilson, 175 bbls., 3,510 feet; The Texas Company and Vacuum Oil Co.'s No. 8 Hannah, Hull, 100 bbls., 5,117 feet, and Gulf Production Co.'s No. 24 T. W. Davis (old well deepened), Big Creek, 1,100 bbls., 3,624 feet.

KANSAS FIELDS

(Continued from Page 47)

sand 1,726-80 feet. Harwood Oil Co.'s No. 1 Good, SW cor. NW NE, Section 36-25-9, is a dry hole at 2,152 feet.

Kiowa County

McKenna and others' No. 1 Ralston, C NE, Section 14-28-20w, is rigging up. Phillips Petroleum Co. and the Prairie Oil & Gas Co.'s No. 1 Bean, NE cor. SE, Section 10-30-17w, is drilling at 285 feet.

Lyon County

Bird, Henley & Sheety made location for No. 1 Pyle, NE cor., Section 1-20-10. Aladdin Oil Co. and Phillips Petroleum Co.'s No. 1 Ratcliff, SW cor., Section 29-20-10, is dry and abandoned at 2,473 feet.

Marion County

National Refining Co. is moving in for No. 16 Remy, CNL S half SE, Section 17-21-4. Chase County Gas Co.'s No. 1 Wise, NE cor. SE, Section 36-19-5, is dry and abandoned at 1,040 feet.

McPherson County

Simmons & Canary and Shell Petroleum Corp. made location for No. 1 Bishop, C NW SW, Section 15-18-1w. Gypsy Oil Co. has the rig on the ground for No. 2 Kinney, SW cor., Section 34-20-3w. Independent Oil & Gas Co.'s No. 2 Morehouse, NW cor., Section 3-21-3w, Voshell Pool, is a rig on the ground. Sinclair Oil & Gas Co. has the rig on the ground for No. 6 Morehouse, NE cor., Section 4-21-3w. E. W. Marland, Inc.'s No. 2 Morehouse, NW cor. SW NW, Section 3-21-3w, has been completed for 834 bbls. in Wilcox sand 3,409-18 feet. Gypsy Oil Co.'s No. 4 Krehbiel, NW cor. SW, Section 3-21-3w, made 844 bbls. in Wilcox sand 3,444-49 feet. No. 1 Stucky, SE cor. SW, Section 4-21-3w, has been completed for 100 bbls. in Wilcox sand 3,458-69 feet. Sinclair Oil & Gas Co.'s No. 2 Morehouse, NE cor. SE NE, Section 4-21-3w, made 917 bbls. from Wilcox sand 3,378-91 feet. Mid-Kansas Oil & Gas Co.'s No. 5 Voshell, NW cor. SW NE, Section 9-21-3w, produced 720 bbls. from Silicious lime 3,399-3,410 feet. No. 6 Voshell, SW cor. NE, Section 9-21-3w, topped Silicious lime at 3,380 feet, drilled to 3,390 feet and made 1,266 bbls. Shell Petroleum Corp.'s No. 7 Stucky, SE cor. SW SE, Section 9-21-3w, has been completed for 845 bbls. in Wilcox sand 3,382-88 feet. Sinclair Oil Co.'s No. 1 Voshell, SW cor. NW NW, Section 10-21-3w, topped Silicious lime at 3,423 feet, drilled in to 3,429 feet and made 200 bbls. E. W. Marland, Inc's No. 1 Krehbiel, NW cor. SW SE, Section 10-21-3w, is dry and abandoned at 3,585 feet. Helmerick & Payne and others' No. 1 Kaufman, NW cor. NE NW, Section 22-21-3w, has been abandoned at 3,554 feet.

Morton County

Argus Production Co.'s No. 1 Howes, C SW, Section 31-32-39w, is rigging up. Location has been made for No. 1 Barton, C SE, Section 11-33-40w. No. 1 Mangell, C NE, Section 25-33-40w, is a location. The rig is up for No. 1 A. O. Mangell, C SE, Section 4-33-39w. No. 1 Patterson, C NE, Section 5-33-39w, is a rig. The rig has been erected for No. 1 D. Thompson, C SW, Section 8-33-39w. Location has been staked for No. 1 Garner, C SE, Section 18-33-39w. No. 1 William Mangell, C SW, Section 19-33-39w, is a location. The rig is up for No. 2 Hayward, C NW, Section 31-33-39w. No. 1 Rolla State Bank, C NW, Section 8-34-39w, is rigging up. The rig is being built for No. 1 Dreibelbis, C NE, Section 9-34-39w. No. 2 Dreibelbis, C NW, Section 9-34-39w, is a rig under construction. Location has been made for No. 1 Tillett, C SW, Section 21-34-39w. No. 2 Chambers, C SE, Section 21-34-39w, is a location. Location has been made for No. 1 Sullivan, C NW, Section 29-34-39w. No. 1 Armstrong, CSL N half NW, Section 16-34-39w, has been completed for 15,000,000 feet of gas in sand 2,652-2,932 feet.

Rice County

Independent Oil & Gas Co. made location for No. 2 Mezger, SE cor. SW NE, Section 21-20-10w. C. B. Davis and others made location for No. 1 Kelly, SW cor. NW, Section 22-20-10w. Robertson and others' No. 1 Snyder, NE cor. NW SE, Section 27-20-10w, is moving in. Aladdin Petroleum Co. is moving in material for No. 1 Burchart, NW cor., NE, Section 28-20-10w.

Rooks County

Boyson, Seeley and others made location for No. 1 Silvers, C NE, Section 21-8-19w.

Rush County

Central Commercial Oil Co. made location for No. 1 Brock, SE cor. SW SW, Section 12-17-16w. McPherson Oil & Gas Co. has the rig on the ground for No. 1 Brock, C SW, Section 24-17-16w. Syndicate Oil Co. and others' No. 1 Mohr, C SW, Section 2-18-16w, is a rig on the ground.

Russell County

The Prairie Oil & Gas Co. is moving the rig in for No. 1 Berrick, SE cor. SW, Section 23-15-13. Empire Oil & Refining Co.'s No. 1 Dillner, NW cor., Section 36-13-15w, made 160 bbls. in sand 3,300-08 feet. Mid-West Exploration Co.'s No. 36 Dortland, SE cor., Section 5-14-15w, has been completed for 40 bbls. in sand 3,065-71 feet.

Sedgwick County

Fisher & Lauck's No. 2 Trustee, SW cor. NE, Section 19-27-2, is a rig going up. Vickers Petroleum Co. and others' No. 1 Keys, NE cor. NW NE, Section 30-27-2, is moving in. T. C. Johnson's No. 1 Petrie, SW cor. SE, Section 35-26-1w, has been abandoned at 3,541 feet. Mars Oil Co.'s No. 2 Miller, NE cor. SE SW, Section 2-26-2, has been completed for 20 bbls. in sand 2,852-2,900 feet. Hays and others' No. 1 Hladick, SW cor. SE SW, Section 15-26-2, has been abandoned at 3,247 feet. Graham Brothers and Barnsdall Oil Co.'s No. 2 Rapp, NW cor., Section 22-26-2, has been completed for 63 bbls. in sand 2,938-55 feet.

Sumner County

Disney and others made location for No. 1 Foy, C E half SE, Section 14-34-1w. Harris & Haun's No. 1-A Welch, SW cor SE, Section 9-34-1, has been abandoned at 4,270 feet.

Stevens County

Argus Production Co.'s No. 1 Roach, C NE, Section 34-32-38w, is rigging up. No. 1 Stone, C NE, Section 3-33-39w, is a location. Agate Oil & Gas Co. and others' No. 1 Gregory is a rig being built, C NW, Section 19-33-38w. Argus Production Co. made location for No. 1 Sibon, C NE, Section 2-34-39w. No. 3 Armstrong, C SE, Section 3-34-39w, is drilling at 450 feet. Location has been made for No. 1 Schaffer, C SE, Section 6-35-38w. Argus Gas Co.'s No. 1 Hobble, C SE, Section 17-32-37w, has been completed for 9,000,000 feet of gas in sand 2,610-2,883 feet. No. 1 Christopher, C SW, Section 11-33-39w, has been completed for 12,035,000 feet of gas in sand 2,485-2,780 feet. McNabb and others' No. 1 Reamy, C SW SW, Section 11-33-38w, made 6,666,000 feet of gas in sand 2,505-2,786 feet. Argus Gas Co.'s No. 1 Smith, C SW, Section 13-33-37, made 5,000,000 feet of gas in sand 2,658-2,891 feet. No. 1 Hicks, C SE, Section 12-34-39w, has been completed for 5,000,000 feet of gas in sand 2,668-2,830 feet. No. 1 Parker, C NE, Section 30-34-36w, made 5,000,000 feet of gas in sand 2,650-2,890 feet.

CANADIAN FIELDS

(Continued from Page 54)

Montana side, to test all horizons to the Madison limestome.

On Alberta End

On the Alberta end, Commonwealth Petroleums' No. 1, LSD 10, Section 3-1-16w4, has upset calculations by missing the gas horizon in the Sunburst sand. It is reported drilling at 2,612 feet and showing some water. Contract called for 2,750 feet. Location is a mile east of the Vanalta producers. Celtic Oils' No. 1, Section 17-1-16w4, is rigging up. Altamont Oil Co.'s No. 1, Section 28-1-16w4, just north of Capitol's No. 1, is rigging up to spud in about June 1.

Shasta Oils, Ltd., which recently agreed to drill four tests on holdings of Hol-Gar Petroleum Co. in S half LSD 1, Section 11-1-17w4, will complete Hol-Gar's No. 1 as its first test. Pan American Oil Co., of Vancouver, British Columbia, has located its No. 1 test in LSD 4, Section 14-1-16w4, to spud in this summer. The company holds 320 acres and plans to drill four tests, and a total of eight if production warrants. Officers include Victor J. Creeden, W. T. Fairgrieve, G. F. H. Long, F. C. Aubrey, and F. M. G. Longair.

MICHIGAN FIELDS

(Continued from Page 57)

140 bbls. initial in the Dundee pay sands at 3,553 to 3,590 feet, the total depth of the well. The Dixie Oil Co.'s No. 2 W. H. Coates, SW SW NE, Section 2-14n-3w, was an 85-bbl. initial producer in the Dundee at 3,548 to 3,593 feet. The fourth new producer was the Stork Oil Co.'s No. 7 Stilgenbauer & Russell, NE NE, Section 12-14n-3w, also Chippewa Township, which topped the Dundee at 3,479 feet and had the pay sand at 3,514 feet. It was completed at 3,550 feet as a 75-bbl. well.

Muskegon Field

Three new completions, one a 50-bbl. oil well in the Dundee, the second a small gasser in the lower Traverse and the third a dry hole in the Dundee, were completed during the last week in the Muskegon oil field of western Michigan. The Lima Oil Corp.'s No. 7 Louis P. Haight, SW SW, Section 9-10-16, Muskegon Township, made 50 bbls. initial in the Dundee at 1,986 to 2,020 feet. It may be deepened a little. The Blue Arrow Petroleum Co.'s No. 2 Kooi, NW SE, Section 8-10-16, also Muskegon Township, makes about 100,000 feet of gas daily from the lower Traverse at 1,890 feet and will be saved because of the scarcity of gas in the field. Ruby A. Edwards' No. 1 Timmer, SW NE, Section 7-10-16, also Muskegon Township, was dry in the Dundee at 2,038 feet and will be plugged.

RIGHT OF WAY LEASES

WASHINGTON, D. C., May 26.—The Act of Congress providing for the lease of oil and gas deposits under railroad and other rights of way, has gone to the President for his signature. This bill, approved by the Secretary of the Interior, allows the Government to lease such rights of way either to the railroad or other owner of the right of way or to other persons for the purpose of drilling for oil or gas.

Natural Gasoline Manufacture

TO BUILD DRY ICE PLANT IN JACKSON COUNTY, COLO.

The Continental Oil Co. has contracted with the Dryice Corp. of America for the erection of a plant at Walden in Jackson County, Colorado. The company has several carbon dioxide wells on the North McCallum and South McCallum Domes which produce from 30,000,000 to 45,000,000 feet of carbon dioxide gas per day when opened to capacity. This gas is accompanied by a very high grade crude oil from the Muddy sand. The Dryice Corp. will first construct a pilot plant to work out the best process for separating the gas from the oil and reducing it to a solid form. This will be followed by a commercial plant. The Continental company retains the oil production and sells the gas to the manufacturing concern.

Dry ice manufacturing from carbon dioxide gas has made rapid strides in the past few years and the company which will operate the plant has 14 or 15 plants in the East. This will be the first, however, to produce dry ice from natural carbon dioxide. The field is well situated to serve the western territory between Chicago and the Pacific Coast where there are vast quantities of perishable products shipped in refrigerator cars. It is understood that 60 tons of dry ice can be made from 1,000,000 feet of the gas.

An interesting feature of this type of well is that the gas is supposed to be manufactured by some chemical process in the ground and is not likely to be exhausted. Investigations have shown that there are some carbon dioxide wells in Europe which have continued producing for 600 to 700 years.

WILL BUILD PLANTS IN LEA COUNTY, NEW MEXICO

The Lea County Field in New Mexico will become active as a producer of natural gasoline before the end of the summer, according to present indications. The completion of a pipe line connection through the Humble system has opened up a market for the crude oil and this will result in a corresponding increase in the casinghead gas.

The Shell Petroleum Corp. has purchased a site in Section 19-19-36 and will construct a half million dollar plant. The Amerada Petroleum Corp. also expects to build a plant on its properties near Hobbs. The Phillips Petroleum Co. and the Texas Pacific Coal & Oil Co. are also considering the construction of plants.

BUYS CARTER PLANT

The Continental Oil Co. has purchased the natural gasoline plant of the Carter Oil Co. located in Section 5-39n-78w of Natrona County, Wyoming. The plant, which has been operator for several years, has a rated capacity of 9,000 gallons. The plant was a part of a purchase involving the Carter's producing properties in Wyoming. The Continental will continue to operate the plant. The company has a refinery at Glenrock, Wyo., which will furnish a convenient outlet for the output of the gasoline plant.

BUYS AMERICAN PLANT

The J. M. Huber Petroleum Co., Borger, Tex., has purchased a 15,000-gallon capacity gasoline plant and oil and gas wells and gas contracts from the Pacific American Gasoline Co., the plant and interests lying in and around the town of Borger in Hutchinson County. The Pacific American Co. has headquarters at Los Angeles, Calif. The purchase price is said to have been $600,000.

ANALYZE GASES WHICH ARE WASTED DUE TO UNNECESSARY OUTAGE LOSS

By Emby Kaye
Skelly Oil Co.*

I should like to discuss in brief some of the causes of exaggerated transportation losses classified under outage, although these losses result either before or after the incident of transportation.

First, of course, comes the characteristics of the material which is transported. Natural gasoline is, even in its more stabilized forms, a highly volatile material, manufactured and stored under pressure, and unless loaded, transported, and unloaded under pressure, some of the material will be lost. The less stable gasoline will sustain greater losses if the material is handled without regard to physical laws. But a perfectly stabilized, propane-free "AA" gasoline, with maximum butane content and vapor pressure, cannot be transported during warm weather without large losses, unless it is under pressure all the time.

Often the volatility of stabilized gasoline is increased during storage, and a good part of the results of rectification nullified. It is the practice in most plants to maintain a pressure on storage tanks by means of residue gas in order to provide pressure to the loading pump suction, on the one hand, and on the other hand, to guard against pulling storage tanks in during cold weather as a result of the condensation of the vapors above the liquid in the tanks. The result upon the propane-free "AA" gasoline, after an exposure to residue gas for several days, may be set off in bold relief by an analysis of the gasoline, to-wit:

Compund—	Before storage	After storage
Ethane		Trace
Propane	Trace	.8%
Isobutane	2.24%	2.91%

After longer exposure gasoline has been found to absorb considerably more of the fixed gases than shown above. This is corrected in a number of plants by storing under natural pressure during all but excessively cold weather. Loading pumps have been relocated with reference to providing sufficient head to suction lines, and in some cases a liquid seal has been provided for long-period storage so that only one tank elevated above the others was in contact with air or dry gas and served as a breather tank for the balance of the battery.

*Part of paper presented at annual meeting, Natural Gasoline Association of America, Tulsa, May 20, 21 and 22. Forepart of paper dealt with other phases of outage problem.

SUMMARY OF ESTIMATES OF LOSSES TIED IN WITH PRESENT OUTAGE LOSSES

Total daily production in United States in gallons	6,600,000
Gallons estimated shipped via pipe line	1,600,000
Gallons estimated shipped via tank car	5,000,000
Combined plant loading and transportation losses—6 per cent, or in gallons	300,000
Market price per gallon	$0.065
Daily loss	$19,500
Annual loss	$7,117,500

The 6 per cent loss is, of course, arbitrary and subject to question by some operators. We arrive at it by figuring:

(1) 1½ per cent outage;

(2) 1½ per cent of production due to making less volatile gasoline than called for by specifications, in order to reduce loading and transportation loss, and

(3) 3 per cent loading loss. Obviously, some manufacturers are experiencing half of the losses shown in the first item, but, in our opinion based upon observation and experience, their plant or loading losses are higher. Some plants do not extract enough butane and of course may, for this reason, have a smaller loss on all three items.

Loading Methods

Another source of increased handling losses charged to outage is to be found in extant loading methods. I take it that little natural gasoline is loaded today with the top of the car completely open. Not only is this practice of open dome loading hazardous, but the resultant loss of vapors is an unnecessary, and therefore wasteful, drain upon the industry. As a general rule, gasoline is loaded into tight cars equipped with special gauging devices, or through temporary dome covers, and a back pressure held on the car while loading, the excess vapors conducted through vapor lines and into plant gathering lines, or if these are too distant, into a relief line where the vapors are vented at a safe distance from the track. In the case of some few companies no vapors are vented because enough back pressure is held on the car to condense or compress all of the vapors. In any of these methods, it is important that all air in the car be purged before pressure is put upon the car.

Failure to do this imprisons about 600 cubic feet of air, some of which is forced into solution at elevated pressures. It has been found that it is of the utmost importance to leave vents open during the first period of loading, the exact time based upon the loading rate, temperature and experience. If, of course, the material is moving to a consignee that gauges the car without first releasing pressure and has facilities to recover the vapors, the matter of purging is not all-important. This applies primarily to cars loaded for general shipment, in which case dissolved air may become a source of loss of good gasoline if the consignee opens the car for "weathering" and gauging. The vapor pressure of the gasoline has been increased, and when the air escapes from the car when the pressure is released, considerable good gasoline vapors are carried over mechanically.

It is important that the consignee handle natural gasoline shipments with regard for the consignor's interests. Failure to do so taxes the manufacturer perhaps more than any of the other losses sustained by him. The consignee is the cus-

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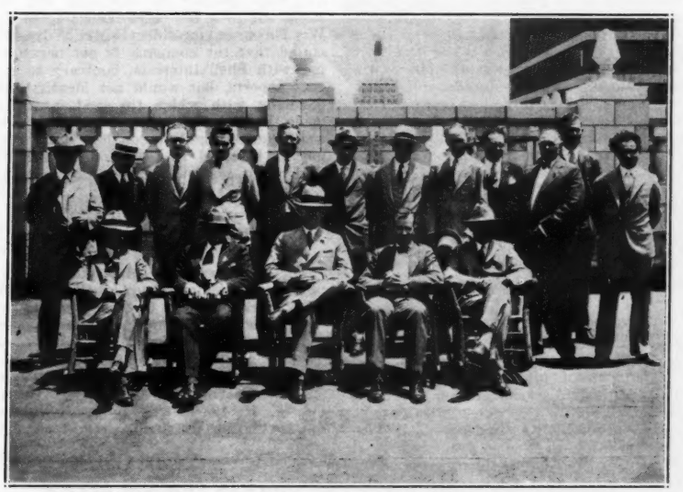
SUPPLY MEN AT NATURAL GASOLINE CONVENTION



Group of membership of Natural Gasoline Supply Men's Association at annual meeting. Seated (left to right), J. H. Satterwhite, Westcott & Greis, director; W. A. Schlueter, Refinery Supply Co., vice president; M. F. Waters, Hanlon-Waters, Inc., president; A. J. Kerr, Pittsburgh Equitable Meter Co., vice president; M. H. Kotzebue, Tulsa Boiler & Machinery Co., treasurer. Standing (left to right), C. L. Waite, Jenkins Brothers; R. E. Day, Magneto Ignition Co.; Ray Miller, secretary of association; J. D. McMahon, Foxboro Co.; L. L. Waite, Jenkins Brothers; N. M. Muir, General Refractories Co.; E. D. Emery, B. V. Emery & Co; Paul P. Daniel, Robinson Orifice Fitting Co.; T. B. Leech, Southwestern Engineering Corp.; D. W. McKay, Hope Engineering Co.; P. W. Foster, Jr., Foster-Wheeler Corp.; Paul M. Raigorodsky, Petroleum Engineering, Inc.

GASOLINE SUPPLY MEN ELECT NEW DIRECTORS

B. L. Potter, Cooper-Bessemer Corp.; J. H. Satterwhite, Westcott and Greis, and Alfred W. Burket of the Jackson Engineering Co. were elected to the board of directors of the National Supply Men's Association at the annual meeting held last week in Tulsa. The meeting was held in connection with the convention of the Natural Gasoline Association of America with which the supply association is affiliated.

Reports at the anual meeting showed that the association is growing steadily in membership, several additional companies joining during the convention. At the meeting at which M. F. Waters of the Hanlon-Waters, Inc., president, presided, chairmen of committees made reports covering the activities of the association. The report of M. H. Kotzebue, Tulsa Boiler & Machinery Co., treasurer, showed the association to be in excellent financial condition.

The membership of the Natural Gasoline Association of America adopted a resolution expressing their appreciation for the several entertainment features provided by the supply men during the convention. Present officers of the association will continue in office until the first of the year when the officers for 1931 will be elected by the board of directors.

Brief Items for Petroleum Refiners

Continental Will Build 2,000-Barrel Refinery at Denver

DENVER, Colo., May 24.—The Continental Oil Co. announced this week through W. H. Ferguson, executive vice president in general charge of the Rocky Mountain district, that the company has purchased a 100-acre tract just north of the city limits of Denver, Colo., on the Brighton road, upon which it will at once begin the construction of a refinery. The plant will have a charging capacity of 2,000 bbls. per day with cracking units and will run the distillates down to coke. The type of cracking units to be installed has been practically decided upon, but will not be disclosed until contracts are signed. It is not the intention of the company to produce lubricating oils in the plant at this time.

Crude for the new plant will be obtained from the Wellington-Fort Collins pools in northern Colorado, the Rattlesnake Dome in northwestern New Mexico and other sources. The Wellington-Fort Collins pools were acquired by the company a year ago from the Union Oil Co. of California and the Continental is the sole operator. They are producing at present around 1,500 bbls. a day from the Muddy sand. It is probable that lower horizons on this structure will be tested at an early date.

The Continental also is the sole operator on the Rattlesnake Dome in New Mexico, which produces a very high gravity oil from the Dakota series and a good grade of light oil from one well in the Pennsylvanian formation. The Continental company has a refinery at Florence, Colo., which operates partly on crude from the Florence Pool. The pools in Larimer County are 70 miles north of the refinery site in an air line and a little farther by rail over the Colorado & Southern railroad. Whether a pipe line will be constructed has not been determined and will depend probably upon the freight rates that may be established.

The decision of the Continental company to build a refining plant at Denver was made after an exhaustive study of marketing conditions out of the Denver territory. The company is one of the largest wholesalers and retailers in the Denver territory and tank wagon deliveries can be made over a wide area extending as far east as the Kansas and Nebraska lines. These deliveries made direct from the refinery will eliminate freight charges in shipping the refined products and the saving will more than overcome the cost of transporting crude from the fields to the refinery.

INCREASE MEXICAN TAXES

Mexican oil production and export taxes for May have been increased based on the higher fuel oil market at New York. Production taxes are marked up from 13¼ cents per gallon to 14.26 cents for light crude and from 7.85 cents to 8.21 cents on heavy crude. Fuel oil production tax is increased from 11.66 cents to 12.63 cents. Combined production and export taxes are increased as follows: Colon light crude from 21.2 cents to 22.2 cents, heavy crude from 12.51 cents to 13.13 cents and fuel oil from 18.02 cents to 18.99 cents.

DEEP ROCK IN MISSOURI

The Deep Rock Oil Corp. is now in position to serve St. Louisians with petroleum products. J. C. Sampson, former owner of the Trico Oil Co., has been appointed manager of its St. Louis plant, located at 1421 Talmage Avenue.

EASTERN OPERATORS VISIT PLANTS OF PENNZOIL COMPANY AT OIL CITY

By Leon H. Walter

OIL CITY, Pa., May 24.—Members of the National Petroleum Association and refiners of this district inspected the two plants of the Pennzoil Co. on Saturday and were entertained by the company at luncheon. During the morning a thorough inspection was made of the equipment and improvements at No. 1 plant at Rouseville, and No. 2 plant at McClintockville. The visitors were shown through all departments of the plant and refinery officials explained the installation and workings of equipment.

At noon luncheon was served in the cafeteria of the company at the Rouseville plant. The visitors found that the Pennzoil plant is expanding in size and progressing just as rapidly in the use of modern equipment and methods. At the present time work has been started on a new combination building which will house the pipe, machine, blacksmith and electrical shops.

A system of well kept roads leads through the entire plant and the surroundings are kept in a neat condition. The inspection trip through No. 1 plant alone occupied a considerable portion of the morning due to the rapid growth of the refinery.

Company officials take special pride in a water pumping plant which is housed in a neat and substantial building isolated from the remainder of the refinery. The water supply is secured direct from Oil Creek, the plant having a capacity of 60,000 gallons a minute and is augmented by an auxiliary plant with a capacity of 40,000 gallons minute.

Two buildings contain batteries of Sharples centrifugal machines, it being deemed wise to have the equipment in two separate buildings in case of emergency.

In the large, three-story, brick warehouse the most modern, improved equipment has been installed. The Pennzoil orders are now filled with the aid of automatic measuring machines which insures a measured and uniform gallonage in each container.

At No. 2 plant considerable improvement is being made in the Dubbs cracking plant with a view to improving the quality of the cracked gasoline. Changes are also being made in the treating plant to produce gasoline to meet the requirements of the present trade.

The refinery boasts the possession of one of the most complete and extensive wax departments of any plant in the business and this department occupied the attention of the visitors for a considerable portion of the inspection trip.

The following made the trip through the plant: Emlenton Refining Co., G. B. Hunter, E. E. Ebener; Waverly Oil Works Co., W. H. Millhiser; Independent Refining Co., P. S. Tarbox, H. E. Shoemaker; Tiona Refining Co., E. M. Lyons, W. M. Walchi, C. R. Johnson, A. G. Dykins; Universal Oil Products Co., M. Carter, Mr. Bogardus, Mr. Truesdall, Mr. de Rachet; Pennsylvania Oil Products Co., D. F. Cowden, S. P. Stannard; Sinclair Refining Co., D. A. Young, W. B. Chenault, O. W. Walchi; Viking Oil Corp., R. W. Clark, George Seager; Tidioute Refining Co., Paul Ruhlman,

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CONTINENTAL TO ENTER EAST COAST MARKET?

NEW YORK, May 27.—Tide Water Associated Oil Co. and Continental Oil Co. are not at present carrying on negotiations looking to a possible consolidation although a number of discussions regarding such a merger have been held at various times between officials of the two companies, it is stated here. Continental is expected to enter the East Coast market on an extensive scale shortly through consolidation with a large company already established in this area and rumors in market circles have coupled Continental and Tide Water in this connection, based on several reports of negotiations between these two companies during the past year.

TIDE WATER BUYS PIONEER

The Tide Water Oil Co. has purchased the business of the Pioneer Distributing Co. with headquarters at Hazelton, Pa.

The Pioneer properties consists of 6 bulk plants, 22 service stations, and 180 dealer accounts.

The acquisition strengthens Tide Water's position in Pennsylvania where it is already well represented.

POST OFFICE ASKS BIDS

CHICAGO, May 24.—The Chicago post office has asked for bids for supplying its motor vehicle department with approximately 300,000 gallons of U. S. Motor gasoline, Oklahoma material, during the three months beginning July 1. Jewett & Sowers Oil Co. are at present supplying the gasoline for the current quarter.

PARAGON WILL MERGE BUT NOT WITH SHELL

NEW YORK, May 27.—Announcement of a merger of Paragon Refining Co. with another oil company will be made within a few days according to E. W. Edwards, president. Mr. Edwards stated that the company is not negotiating with Shell interests, contrary to recent reports, but would not identify the company with which the deal is to be made. Valvoline Oil Co., control of which was acquired by Paragon last year, will not be involved in the pending consolidation but will be continued as a separate company.

OFFER SUMMER COURSES

Special courses in petroleum refining, planned particularly to meet the needs of young technical men in the petroleum industry, will be offered at the summer session of Massachusetts Institute of Technology from July 7 to August 9. Dr. T. K. Sherwood will conduct the course on dynamics of fluids and flow of heat. Dr. W. K. Lewis will conduct a course on distillation, rectification and absorption.

OPENS CHICAGO OFFICE

The Skelly Oil Co. has opened a new division office for the oil and gas sales division in Chicago with jurisdiction over all of Illinois, southeast and southwest Wisconsin and a part of Indiana. The Chicago office is in charge of W. S. Rawitzer, division sales manager, and R. E. Roberts, assistant division sales manager, and is located at 2123 Engineering Building, 205 West Wacker Drive.

PETTINGILL HEAD OF SALES FOR RIO GRANDE

W. C. Pettingill, for 10 years associated with the Tide Water Oil Sales Corp., has been appointed general director of sales for the Rio Grande Oil Co. with headquarters in Los Angeles. Mr.

W. C. Pettingill

Pettingill started as salesman with the Tide Water in 1920 and at the time of his resignation was western sales manager for the company.

In his new capacity with the Rio Grande Oil Co. Mr. Pettingill will have charge of tank car and station sales for the Rio Grande company which has rapidly expanded its marketing facilities during the past year. Over 50 wholesale branches are operated. Two terminals have been completed in California to handle export and coastwise movements.

WARSON BUILDS STORAGE

The Warson Petroleum Co. of St. Louis, Mo., has purchased a site and awarded contracts for the construction of a large storage plant with a capacity of 5,000,000 gallons. In addition to the tankage a large garage, designed to accommodate 60 trucks, will be built. In the past the Warson Petroleum Co. has acted chiefly as tank car marketers of petroleum products but is now entering the distributing field. The storage will include gasoline and all petroleum products.

ENLARGE BULK TERMINAL

The Gulf Refining Co. has awarded to the United Engineers & Constructors, Inc., a contract for additions to the Gulf bulk terminal located on Staten Island.

The present Staten Island storage plant, which was completed by United Engineers & Constructors early this year, has already proved inadequate for the company's business in the metropolitan district, it is stated. The new construction at the Staten Island terminal will involve the expenditure of $2,000,000.

PLANS OFFICE BUILDING

CHICAGO, May 24.—The Cosden Oil Co. of Illinois which is just completing a large and modern bulk plant at 1300 Webster Avenue, has planned to build at the same location an office building which will house all the Cosden offices in this city. The building should be completed some time in the early fall.

Griscom-Russell

Heat Transfer Apparatus

A type for every service

VERTICAL and horizontal units—gas coolers, gasoline condensers, and heat exchangers—are all shown in the accompanying installation which illustrates the many types of G-R Heat Transfer Apparatus.

Each type is designed for a specific service and for definite temperatures, pressures, etc. The materials of construction are carefully selected for each unit to withstand the physical and chemical characteristics of the fluids to be handled. Recommendations are made only after a thorough study of the particular requirements of the installation under consideration and are based on many years of experience in successfully solving every conceivable kind of heat transfer problem.

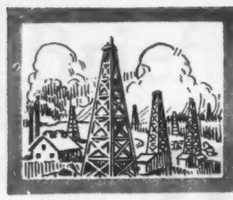
The results of this long experience are shown in the many distinctive features of G-R Heat Transfer Apparatus, including their special provisions against leakage, high rate of heat transfer, low pressure drop, exceptional compactness and high salvage value.

Write for bulletins explaining these features in detail and describing and illustrating the many applications of G-R Heat Transfer Apparatus.

The Griscom-Russell Co.
285 Madison Ave.,
New York

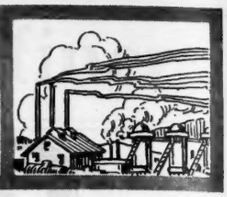
Philadelphia	Atlanta
Boston	Charlotte
Rochester	Memphis
Buffalo	Indianapolis
Pittsburgh	Cincinnati
Chicago	Tulsa
Cleveland	Houston
Massillon	Dallas
St. Louis	Kansas City
Minneapolis	San Francisco
Milwaukee	Los Angeles
Detroit	Seattle
New Orleans	Denver

For Canada: Riley Engineering & Supply Co., Ltd., Toronto



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.



GASOLINE AND NAPHTHA

	May 27		May 20		May 13	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.06¾	.07¼	.06¾	.07¼	.06¾	.07¼
56-58 450 endpoint	.06½	.07	.06¾	.07	.06¾	.07¼
*58-60 437 endpoint (U. S. Motor)	.0729		.075		.075	
*60-62 437 endpoint	†.07	.07½	†.07¼	.07½	†.07¼	.07½
*60-62 400 endpoint	†.07¼	.07½	†.07¼	.07½	†.07¾	
*64-66 375 endpoint	.0812		†.07½	.07¾	.0812	
68-70 360 endpoint	.07½	.08	.07¾	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.06½	.06¾	.06½	.07	.06¾	.07
NORTH TEXAS—						
56-58 450 endpoint	.06½	.06¾	.06½	.07	.06½	.07
58-60 450 endpoint	.06½	.06¾	.06½	.07	.06¾	.07
58-60 437 endpoint (U. S. Motor)	.06⅝	.06¾	.06¾	.07	.06¾	.07¼
60-62 400 endpoint	.06¾	.07	.07	.07¼	.07⅛	.07½
64-66 390 endpoint	.07	.07¼	.07¼	.07½	.07⅜	.07⅝
64-66 375 endpoint	.07¼	.07½	.07½	.07¾	.07½	.07¾
68-70 360 endpoint	.07½	.07¾	.07¾	.08	.07¾	.08
64-66 437 endpoint (blend)	.06½	.06¾	.06½	.06¾	.06½	.06¾
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.07¾		.07¾		.07¾	
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.07¾		.07¾		.07¾	
PENNSYLVANIA—						
52-54 Naphtha	.07¾		.07¾	.08	.07¾	.08
54-56 Naphtha	.08		.07¾	.08	.07¾	.09
58-60 Gasoline	.08¼		.08¼	.08½	.08¼	.08½
60 Gasoline	.08½	.08¾	.08¼	.08½	.08¼	.08½
62 Gasoline	.08½	.09	.08½	.09	.08½	.08¾
64 Gasoline	.08¾	.09½	.08¾	.09½	.09	.09¼
68-70 350 endpoint gasoline	.09		.09¼	.09½	.09¼	.09½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.07	.07½	.07	.07½	.07	.07½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06¾	.07	.07	.07⅛	.07	.07¼
56-58 450 endpoint	.06⅝	.07	.06¾	.07⅛	.07	.07¼
58-60 437 endpoint (U. S. Motor)	.06⅝	.07¼	.06¾	.07	.07	.07½
60-62 400 endpoint	.07⅛	.07⅜	.07¼	.07⅜	.07⅜	.07⅝
64-66 375 endpoint	.07½	.07¾	.07¾	.08	.07⅞	.08
68-70 360 endpoint	.08		.08	.08¼	.08	.08¼
64-66 437 endpoint (blend)	.06¾	.07¼	.07	.07¼	.07¼	.07½
GULF COAST (Export)—						
58-60 U. S. Motor	.08		.08		.08	
60-62 400 endpoint	.09		.09		.09	
61-63 390 endpoint	.09¼		.09¼		.09¼	
64-66 375 endpoint	.09½		.09½		.09½	

*Weighted average prices May 26, 19 and 12 as reported by representative refiners. Sales to jobbers only. †No sales reported. Prices show general market.

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

	May 27		May 20		May 13	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅜	.06½	.06½		.06½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅛	.06¼	.06⅜		.06½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.06		.06¼		.06⅜	.06½
Grade BB, 84-92, 375 e.p., rec. 85%	.06		.06	.06¼	.06¼	.06½
Grade C, 80-92, 375 e.p., rec. 78%	.05¾	.06	.06	.06¼	.06¼	.06½
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅜	.06½	.06½		.06½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅛	.06¼	.06⅜	.06½	.06½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.06		.06¼		.06¼	.06½
Grade BB, 84-92, 375 e.p., rec. 85%	.06		.06⅛	.06¼	.06¼	.06½
Grade C, 80-92, 375 e.p., rec. 78%	.05¾	.06	.06	.06¼	.06¼	.06½
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.06½	.06⅝	.06½	.06¾	.06½	.06¾
Grade BB, 84-92, 375 e.p., rec. 85%	.06⅛	.06¼	.06¼	.06½	.06¼	.06½
Grade C, 80-92, 375 e.p., rec. 78%	.06	.06¼	.06¼	.06½	.06¼	.06½
CALIFORNIA—						
75-78 375-390 endpoint	.06¾	.07¾	.06¾	.07¾	.06¾	.07¾
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅜	.06½	.06½		.06½	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06⅛	.06¼	.06⅜		.06½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.06		.06¼		.06½	
Grade BB, 84-92, 375 e.p., rec. 85%	.06		.06⅛	.06¼	.06⅜	.06½
Grade C, 80-92, 375 e.p., rec. 78%	.05¾	.06	.06	.06¼	.06⅜	.06½

BURNING OIL

	May 27		May 20		May 13	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.03⅞	.04¼	.04	.04¼	.04⅛	.04½
42-44 water white kerosene	.04¼	.04½	.04¼	.04½	.04⅜	.04¾
NORTH TEXAS—						
41-43 water white kerosene	.03¾	.04	.03¾	.04	.04	.04⅛
40-42 water white kerosene	.03¾		.03¾		.04	
***NORTH LOUISIANA—**						
41-43 water white kerosene	.04¾	.05	.04¾	.05	.05	.05¼
***ARKANSAS—**						
41-43 water white kerosene	.05	.05⅛	.05	.05⅛	.05	.05⅛
PENNSYLVANIA—						
43 Kerosene prime white	.05¼		.05¼		.05¼	.05½
45 Kerosene water white	.05½		.05½		.05½	.05¾
46 Kerosene water white	.05½		.05½		.05¾	.06
47 Kerosene water white	.06	.06¼	.06	.06¼	.06	.06¼
300 Mineral Seal	.06¾		.06¾		.06½	.06¾
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.04	.04½	.04	.04½	.04	.04½
Engine distillate, 43-44, 445 endpoint	.06	.06½	.06	.06½	.06	.06½
Engine distillate, 42-44, 480 endpoint	.05	.05½	.05	.05½	.05	.05½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.04	.04¼	.04	.04¼	.04¼	.04½
42-44 water white kerosene	.04½		.04¼	.04¾	.04½	.05
GULF COAST (Export)—						
41-43 prime white	.06		.06		.06	
41-43 water white	.07		.07		.07	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	May 27		May 20		May 13	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.52½	.57½	.52½	.57½	.52½	.60
18-22 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
20-22 Fuel Oil, per bbl.	.60	.65	.60	.65	.60	.65
22-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
24-26 Fuel Oil, per bbl.	.70	.75	.70	.80	.70	.80
26-30 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
28-30 Fuel Oil, per bbl.	.85	.90	.85	.90	.85	.95
32-36 Gas Oil (industrial)	.02⅛	.02⅜	.02⅛	.02⅜	.02¼	.02⅜
32-36 Gas Oil (straw color)	.02¼	.02½	.02¼	.02½	.02⅜	.02⅝
36-38 Distillate	.02¾	.03	.02¾	.03	.02¾	.03
38-40 Straw Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
24-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02⅜	.02⅛	.02⅜
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.80	.90	.80	.90	.80	.90
30-32 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
***ARKANSAS—**						
33-36 Distillate	.02⅞	.03⅛	.02⅞	.03⅛	.02⅞	.03⅛
30-32 Gas Oil	.02¾	.02⅞	.02¾	.02⅞	.02¾	.02⅞
16-22 Refinery Fuel Oil, per bbl.	.80	.90	.80	.90	.80	.90
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.03¾	.04	.03¾	.04
Bunker C Fuel (cargo lots), per bbl.	.80	.90	.75	.80	.75	.80
Bunker C Fuel (small lots)	1.05	1.10	1.05	1.10	1.05	1.10
PENNSYLVANIA—						
30-34 Fuel Oil	.03⅞	.04	.03⅞		.04⅛	
36-40 Fuel Oil	.04	.04¼	.04		.04¼	
CALIFORNIA—						
33-36 Distillate	.02½	.03	.02½	.03	.02½	.03
26-32 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
15-20 Fuel Oil, Bunker (at tidewater)	.60	.65	.60	.65	.60	.65
15-20 Fuel Oil (cargo lots), per bbl.	.55	.65	.55	.65	.55	.65
27 plus Diesel, per bbl.	.80	.90	.80	.90	.80	.90
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.70		.67½	.72½	.70	.75
18-22 Fuel Oil, per bbl.	.55	.60	.57½	.62½	.57½	.62½
28-30 Fuel Oil, per bbl. (zero)	.87½	.92½	.90	.95	.90	.95
32-36 Gas Oil (zero)	.02½	.02⅝	.02⅝	.02¾	.02½	.02¾
32-36 Gas Oil (industrial)	.02¼	.02⅜	.02⅜	.02½	.02⅜	.02½
36-38 Distillate	.02½		.02½	.02¾	.02½	.02¾
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

	May 27		May 20		May 13	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06	.07	.06	.07	.06	.07
100 vis., 3 color, 20-25 cold test	.05½	.06	.05½	.06	.05½	.06
150 vis., 3 color, 20-25 cold test	.08½	.09	.08½	.09	.08½	.09
150 vis., 4 color, 20-25 cold test	.08	.08½	.08	.08½	.08	.08½
180 vis., 3 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
180 vis., 4 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
180 vis., 5 color, 23-28 cold test	.09	.09½	.09	.09½	.09	.09½
200 vis., 3 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
240 vis., 3 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
280 vis., 3 color, 25-30 cold test	.17½	.18	.17½	.18	.17½	.18
280 vis., 4 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
280 vis., 5 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
Cylinder Stocks:						
600, steam refined, light green	.09	.11	.09	.11	.09	.11
600, steam refined, dark green	.08	.10	.08	.10	.08	.10
190-200 vis., D color, Bright Stock	.41	.42	.41	.42	.41	.42
150-160 vis., D color, Bright Stock	.37		.37		.37	
*150-160 vis., D color Bright Stock	.35	.36½	.35	.36½	.35	.36½
150-160 vis., E color, Bright Stock	.32	.35	.32	.35	.32	.35
Waxes:						
124-126 White Crude Scale Wax	.02⅛	.02⅜	.02⅛	.02⅜	.02⅛	.02⅜
PENNSYLVANIA—						
34 Neutral	.07	.07¼	.07	.07¼	.07	.07¼
34 Sundebloom	.07¾		.07¾		.07¾	
36 Miners' Neutral	.07½		.07½		.07½	
150, 3 color	.15	.16½	.15	.16	.15½	.16½
180, 3 color	.20½	.21	.20½	.21	.21	.22
200, 3 color	.25	.26	.25	.26	.25	.26
220, 3 color	.28		.28		.29	.30
600, steam refined	.20	.21	.21½	.22½	.22½	.23
635, steam refined	.25	.28	.26	.29½	.29	.29½
650, steam refined	.28		.29		.29½	.30
600, Pennsylvania Flash	.29	.31	.30	.31	.31	.32
630, Pennsylvania Flash	.34	.35	.35		.35	.36
600, E filtered	.27	.28	.27½	.29	.28½	.30
600, D filtered	.33	.33½	.33½	.34	.35	.35½
Pennsylvania Bright Stocks	.38	.38½	.39	.40	.39	.40
*122-124 White Crude Scale Wax	.02½		.02½		.02½	.02⅝
124-126 White Crude Scale Wax	.02⅝		.02⅝		.02⅝	.02¾

*High cold test. All bright stock prices are for domestic movement.

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.06½	.06¾	.06½	.06¾	.06½	.06¾
200 vis., 3 color, pale oil	.09½		.09½		.09½	
300 vis., 3 color, pale oil	.10¾		.10¾		.10¾	
500 vis., 3½ color, pale oil	.12	.12¾	.12	.12¾	.12	.12¾
750 vis., 3½ color, pale oil	.13½		.13½		.13½	
1,200 vis., 3½ color, pale oil	.16		.16		.16	
2,000 vis., 4 color, pale oil	.17		.17		.17	
200 vis., 5-6 color, red oil	.08¾	.09	.08¾	.09	.08¾	.09
300 vis., 5-6 color, red oil	.10	.10¼	.10	.10¼	.10	.10¼
500 vis., 5-6 color, red oil	.11¼		.11¼		.11¼	

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

750 vis., 5-6 color, red oil	.12¾	.13	.12¾	.13	.12¾	.13
1,200 vis., 5-6 color, red oil	.15		.15		.15	
2,000 vis., 6 plus color, red oil	.17		.17		.17	
200 vis., 2½ color, filtered oil	.11	.12	.11	.12	.11	.12
300 vis., 2½ color, filtered oil	.12	.13	.12	.13	.12	.13
500 vis., 2½ color, filtered oil	.14½	.15	.14½	.15	.14½	.15
750 vis., 2½-3 color, filtered oil	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.15¼	.15½	.15¼	.15½	.15¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	May 27		May 20		May 13	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.09	.10	.09	.10	.09	.10
Kerosene, water white, 41-43	.07¼	.07¾	.07¼	.07¾	.07¼	.07¾
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.15		1.15		1.15	
Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil, tank car	.10½		.10½		.10½	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
285 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.03½		.03½		.03½	
125-127 a.m.p., per lb.	.03¾		.03¾		.03¾	
130-132 a.m.p., per lb.	.04⅜		.04⅜		.04⅜	
133-135 a.m.p., per lb.	.04¾		.04¾		.05¼	
135-137 a.m.p., per lb.	.05⅛		.05⅛		.05½	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01⅞		.01⅞		.01⅞	
Amber	.03⅜		.03⅜		.03⅜	
Extra Amber	.03½		.03½		.03½	
Cream	.06⅜		.06⅜		.06⅜	
Lily White	.06½		.06½		.06½	
Snow White	.08⅜		.08⅜		.08⅜	

*Lighterage 5.0 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	May 27	May 20	May 13
Kerosene, prime white	.07¾	.07¾	.07¾
Kerosene, water white	.09	.09	.09
600, steam refined cylinder stocks, in bbls.	.29½	.30½	.31½
635, steam refined	.31½	.32½	.33½
650, steam refined	.35½	.36½	.37½
600, Pennsylvania Flash	.38½	.39	.39
630, Pennsylvania Flash	.41½	.42	.42
600, Warren E	.37½	.38	.38½
600, Oil City E	.36½	.37	.37½
Light 140-150 Bright Stocks	.47	.48	.48
Dark 140-150 Bright Stocks	.45	.46	.46

LOS ANGELES EXPORT PRICES

	May 27		May 20		May 13	
Kerosene, water white	.03¾	.04¼	.03¾	.04¼	.03¾	.04¼
*U. S. Motor Gasoline, 53-55, 437 e.p.	.06½	.06¾	.06½	.06¾	.06½	.06¾

*Prices on coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posted all oil 40 gravity and above at $1.43 on April 10.

Corsicana heavy (April 10, 1930).....$ .80

Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

In Noel-McConnell district Prairie Oil & Gas Co. posted April 10, below 30 degrees, 75½ cents, with 5-cent differential upward to 34-34.9, $1.00½, and then a 3-cent differential upward to 44 and above at $1.35½.

WEST TEXAS

Iatan*.....Same as North Texas

Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Ector.....See gravity table, Column 3

Howard and Glasscock.....See gravity table, Column 9

Chalk† (April 10, 1930).....$ .75

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (April 11, 1930).....$ .90

Smackover, 24 gravity and above (April 11, 1930).....1.05

Carterville, Sarepta and Cotton Valley, below 36 gravity (April 11, 1930)... .85

Bellevue (April 11, 1930).....1.15

Urania (April 11, 1930).....95

East El Dorado (April 11, 1930).....90

Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Magnolia Petroleum Co.

GULF COAST

Grade A (April 10, 1930)*.....$1.15

Grade B, 25 degrees and upward.....See gravity table

Jennings, La. (April 10, 1930)†.....1.10

Refugio (light).....Same as Grade B

Refugio (heavy) (April 10, 1930)‖.....85

Sorrento (April 10, 1930)‡.....1.10

Markham (April 10, 1930)§.....85

High Island (April 10, 1930)¶.....95

*Humble Oil & Refining Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Pipe Line Co. ¶Posted by Gulf Pipe Line Co. ‖Humble Oil & Refining Co. and Gulf Coast Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.
(Effective April 11, 1930)

Hex (Feb. 15, 1930):

33 gravity and above.....$ .87

(Continued on Page 136)

CRUDE OIL GRAVITY TABLE

Gravity	Okla.-Kans.	N. C. Texas, No. La., Arkansas	Crane, Upton, Ector, Crockett, Winkler, Pecos, Mitchell (West Texas); Lea, N. Mex.	Wheeler County (Texas Panhandle)	Gray County (Texas Panhandle)	Carson and Hutchinson (Texas Panhandle)	Salt Creek, Wyo.	Stephens, Ark.	Howard-Glasscock (West Texas)	Grade B Gulf Coast and Refugio, Texas
	1	2	3	4	5	6	7	8	9	10
Below 25	.75	.72	.65	.....	.....	.....	.....	.....	.65	1.00
25 to 25.9	.80	.77	.68	.....	.....	.....	.....	.....	.68	1.03
26 to 26.9	.85	.82	.71	.....	.....	.....	.....	.....	.71	1.06
27 to 27.9	.90	.87	.74	.....	.....	.....	.....	.76	.74	1.09
28 to 28.9	.95	.92	.77	.....	.75½	.....	.....	.81	.76	1.12
29 to 29.9	1.00	.97	.80	.75½	.80½	.....	1.00	.86	.78	1.15
30 to 30.9	1.05	1.02	.83	.80½	.85½	.....	1.05	.91	.80	1.18
31 to 31.9	1.10	1.07	.86	.85½	.90½	.77½	1.10	.96	.82	1.21
32 to 32.9	1 15	1.12	.89	.90½	.95½	.82½	1.15	1.01	.84	1.24
33 to 33.9	1.18½	1.17	.92	.95½	1.00½	.87½	1.18½	....	.86	1.27
34 to 34.9	1 22	1.22	.95	1.00½	1.05½	.92½	1.22	....	.88	1.30
35 to 35.9	1.25½	1.25½	.98	1.04	1.09	.96	1.25½	....	.90	1.33
36 to 36.9	1.29	1.29	1.01	1.07½	1.12½	.99½	1.29	....	.92	1.36
37 to 37.9	1.32½	1.32½	....	1.11	1.16	1.03	1.32½	....	....	1.39
38 to 38.9	1.36	1.36	....	1.14½	1.19½	1.06½	.....	....	....	1.42
39 to 39.9	1.39½	1.39½	....	1.18	1.23	1.10	.....	....	....	1.44
40 to 40.9	1.43	1.43	....	1.21½	1.26½	1.13½	.....	....	....	1.46
41 to 41.9	1.46½	1.46½	....	1.25	1.30	1.17	.....	....	....	1.48
42 to 42.9	1.50	1 50	....	1.28½	1.33½	1.20½	.....	....	....	1.50
43 to 43.9	1.53½	1.53½	....	1.32	1.37	1.24	.....	....	....	1.52
44 and above	1.57	1.57	....	1.35½	1.40½	1.27½	.....	....	....	1.54

Column 1, Note—Above prices posted April 10, 1930, by Carter Oil Co. (beginning at 25 degrees and below), and by the Prairie Oil & Gas Co. and other purchasers beginning at 24 degrees and below, the Magnolia Petroleum alone excepted. The Magnolia on April 10 posted the following prices: Below 26 gravity, 70 cents; 26-26.9, 76 cents; 27-27.9, 82 cents; 28-28.9, 88 cents; 29-29.9, 95 cents; 30-30.9, $1.02. From 31 up and including 44 degrees and above Magnolia followed Carter price schedule, but made its whole schedule apply to its gravity purchases in Kansas, Oklahoma and North Central Texas alike.

Column 2—Humble Oil & Refining Co. posted above prices April 10, 1930, and was followed by all other companies in Texas except Magnolia which posted a different price schedule than Humble up to 33.9 degrees (see note in paragraph just above). The Texas Company posted North Louisiana and Arkansas on April 10, and Standard of Louisiana posted on April 11 followed by other companies, but Magnolia's price schedule begins with below 28 gravity at 87 cents. North Central Texas includes North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona, Moran, and Corsicana light; Arkansas and Louisiana pools include Caddo, Bull Bayou, Crichton, Cotton Valley, above 36 gravity, DeSoto, Haynesville, Homer, El Dorado and Rainbow.

Column 3—Posted by Humble Oil & Refining Co. April 10, 1930, and Magnolia Petroleum Co. April 10, 1930.

Columns 4, 5 and 6—Humble Oil & Refining Co., Prairie Oil & Gas Co., Magnolia Petroleum Co., April 10, 1930.

Column 7—Mid-West Refining Co., April 11. All crude over 37 gravity 1.32½.

Column 8—Louisiana Oil & Refining Co., April 11.

Column 10—Humble Oil & Refining Co., April 10. Magnolia Petroleum Co. posted below 25 gravity 65 cents with 3-cent differential upward to and including 36 and above, which was posted at $1.01.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective March 11, 1930)

Gravity—	Seal Beach, Salt Lake, Newport, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill, Inglewood	Whittier, La Habra, Coyote Hills	Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	Montebello	Santa Fe Springs (May 17, 1930)	Santa Maria, Coalinga	Wheeler Ridge, Fruitvale	Orcutt, Ventura, Rincon	Ventura Avenue (Nov. 8)	Elwood Terrace	Athens, Rosecrans, Dominguez
	1	2	3	4	5	6	7	8	9	10	11
14 to 14.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
15 to 15.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
16 to 16.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
17 to 17.9	.70	.70	.55	.70	....	.55	.55	.55	.70	....	....
18 to 18.9	.76	.76	.62	.71	....	.62	.62	.65	.76	....	....
19 to 19.9	.82	.82	.70	.77	....	.70	.70	.70	.82	....	....
20 to 20.9	.88	.87	.78	.83	....	.78	.78	.78	.88	....	....
21 to 21.9	.94	.93	.86	.90	.50	.86	.86	.90	.91	....	....
22 to 22.9	1.00	.98	.94	.97	.50	.94	.94	.95	.94	....	....
23 to 23.9	1.07	....	1.02	1.05	.50	1.02	1.02	1.02	1.00	....	....
24 to 24.9	1.14	....	1.09	1.13	.50	1.07	1.07	1.10	1.07	....	1.14
25 to 25.9	1.21	....	1.16	1.17	.50	1.12	1.12	1.18	1.14	....	1.19
26 to 26.9	1.28	....	1.23	1.23	.50	1.17	1.17	1.26	1.21	....	1.24
27 to 27.9	1.35	....	1.30	1.29	.50	1.23	1.22	....	1.28	....	1.29
28 to 28.9	1.42	....	1.35	1.35	.56	1.27	....	....	1.35	....	1.34
29 to 29.9	1.46	....	1.41	1.38	.62	1.31	....	....	1.39	....	1.39
30 to 30.9	1.50	....	1.47	1.41	.68	1.35	....	....	1 43	....	1.45
31 to 31.9	1.55	....	1.53	....	.74	1.39	....	....	1.48	....	1.51
32 to 32.9	1.60	....	1.59	....	.80	1.43	....	....	1.53	....	1.57
33 to 33.9	1.65	....	1.65	....	.85	1.47	....	....	1.59	....	1.64
34 to 34.9	1.70	....	....	....	.90	1.51	....	....	1.65	1.32	1.71
35 to 35.9	1.75	....	....	....	.95	1.55	....	....	1.71	1.39	1.78
36 to 36.9	1.80	....	....	....	.95	....	....	....	....	1.46	1.84
37 to 37.9	1.85	....	....	....	.95	....	....	....	....	1.53	1.90
38 to 38.9	1.90	....	....	....	.95	....	....	....	....	1.60	1.96
39 to 39.9	....	....	....	....	.95	....	....	....	....	1.66	2.02
40 to 40.9	....	....	....	....	....	....	....	....	....	1.72	2.08
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.14
42 to 42.9	....	....	....	....	....	....	....	....	....	1.84	2.20

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity, 50 cents; 14 gravity and above, 55 cents, effective March 11. On March 11, the Union Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

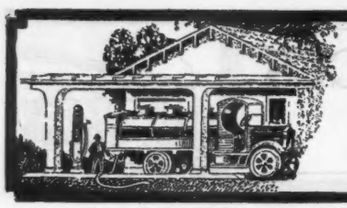
Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns May 27.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago†	18.0*	19.0	3.0	13.0
Decatur, Ill.	18.2	19.2	3.0	13.1
E. St. Louis	17.4	18.4	3.0	12.2
Joliet	18.4	19.4	3.0	13.3
Peoria	18.2	19.2	3.0	13.1
Quincy	18.2	19.2	3.0	12.9
Davenport, Ia.	18.5	19.5	3.0	13.3
Des Moines	18.5	19.5	3.0	13.3
Keokuk	18.5	19.5	3.0	13.3
Sioux City	18.1	19.1	3.0	12.9
Duluth, Minn.	19.5	20.5	3.0	13.9
Mankato	19.1	20.1	3.0	13.7
Minneapolis	19.2	20.2	3.0	13.9
LaCrosse, Wis.	18.2	19.2	3.0	14.0
Milwaukee	17.1	18.1	2.0	12.9
Madison	17.3	18.3	2.0	13.1
Detroit, Mich.	18.8	19.8	3.0	14.7
Grand Rapids	18.7	19.7	3.0	14.6
Saginaw	18.9	19.9	3.0	14.8
Evansville, Ind.	19.0	20.0	4.0	14.0
Fort Wayne	19.4	20.4	4.0	14.4
Indianapolis	19.2	20.2	4.0	14.2
South Bend	19.4	20.4	4.0	14.4
Fargo, N. D.	20.9	21.9	3.0	15.9
Huron, S. D.	20.3	21.3	4.0	14.7
Sioux Falls	19.1	20.1	4.0	14.4
K. C., Mo.*	17.9	18.9	3.0	11.6
Springfield*	17.8	18.8	3.0	12.5
St. Louis*	16.9	17.9	2.5	12.3
St. Joseph	17.5	18.6	2.0	12.2
Wichita, Kans.	16.3	15.8	3.0	11.8
Bartlesville, Ok.	17.5	20.5	4.0	11.5

*State tax 2 cents; remainder city tax.

†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents; 100,000 gallons or more, 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	10.0
V. M. & P. naphtha	16.7	12.0
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	14.0	18.0	4.0	12.0
Fort Worth	16.0	19.0	4.0	12.0
Houston	15.0	19.0	4.0	11.0
San Antonio	15.0	19.0	4.0	11.0
El Paso	16.0	20.0	4.0	13.0
Texarkana	14.0	15.0	4.0	12.0
Muskogee*	16.0	19.0	4.0	9.0
Okla. City*	16.0	19.0	4.0	10.0
Tulsa*	16.0	20.0	4.0	10.0
Ft. Smith, Ark.	14.0	15.0	5.0	12.0
Little Rock	18.0	19.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	17.0	20.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	23.0	26.0	4.0	19.0
Casper, Wyo.	19.0	22.0	4.0	14.0
Cheyenne	20.5	23.5	4.0	15.5
Butte, Mont.	24.5	27.5	5.0	20.0
Helena	24.5	27.5	5.0	20.0
Salt Lake, Utah	20.0	23.0	3.5	17.0
Albu'que, N. M.	21.0	24.0	5.0	17.0
Boise, Idaho	23.5	26.5	5.0	19.0
Twin Falls	23.5	27.5	5.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Pittsburgh, Pa.	15.0	*21.0	...	13.0
Philadelphia	15.0	*21.0	...	13.0
Scranton	15.0	*21.0	...	13.0
Allentown	15.0	*21.0	...	13.0
Altoona	15.0	*21.0	...	13.0
Erie	15.0	*19.0	...	13.0
Dover, Del.	18.0	20.0	3.0	13.0
Wilmington	18.0	20.0	3.0	13.0
Springf'd, Mass.	17.5	19.5	2.0	12.5
Worcester	17.3	19.3	2.0	12.3
Boston	16.5	18.5	2.0	11.5
Providence, R.I.	16.7	18.7	2.0	11.7
Hartford, Conn.	17.5	19.5	2.0	12.5
New Haven	17.6	19.6	2.0	12.6

*Includes tax of 4 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	17.6	19.6	2.0	15.6
New York*	16.3	18.3	2.0	14.3
Buffalo	17.8	19.8	2.0	14.8
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.8	20.8	2.0	14.8
Boston, Mass.	16.5	18.5	2.0	13.5
Augusta, Me.	19.8	21.8	4.0	14.8
Manch't'r, N. H.	19.4	21.4	4.0	14.4
Burlington, Vt.	19.6	21.6	4.0	15.3

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	21.0	23.0	6.0	15.5
Augusta	20.0	22.0	6.0	15.5
Macon	22.0	22.0	6.0	14.0
Savannah	21.0	23.0	6.0	14.0
Birm'ham, Ala.	20.0	22.0	5.0	14.5
Mobile	18.0	18.0	4.0	13.5
Montgomery	21.0	23.0	4.0	15.0
Clarks'le, Miss.	19.0	21.0	5.0	12.5
Jackson	20.0	22.0	5.0	13.0
Natchez	19.5	21.5	5.0	13.0
Gulfport	21.0	23.5	5.0	13.0
Vicksburg	19.5	21.5	5.0	13.0
Jack'ville, Fla.	21.0	23.0	6.0	14.0
Miami	22.0	24.0	6.0	14 0
Pensacola	19.0	21.0	6.0	13.5
Tampa	21.0	23.0	5.0	13.0
Lexington, Ky.	19.0	20.0	5.0	14.5
Covington	20.0	21 0	5.0	14.5
Louisville	20.0	22.0	5.0	13.0
Ashland	19.0	21.0	5.0	15.0
Catlettsburg	20.0	21.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Birmingham and Mobile state taxes add 1-cent city levy. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlantic City	16.5	18 5	2.0	13.5
Newark, N. J.	15.5	17.5	2.0	12.5
Annapolis, Md.	18.0	20.0	4.0	13.0
Baltimore	17.2	19.2	4.0	10.5
Cumberland	19.0	21.0	4 0	14.0
Washington	15.7	17.7	2.0	12.7
Danville, Va.	19.8	21.8	5.0	13.8
Norfolk	18.3	20.3	5.0	12.0
Petersburg	19.3	21.3	5 0	13.3
Roanoke	20.0	21.0	5.0	14.0
Richmond	18.7	20.7	5.0	12.7
Charles'n, W.Va.	18.5	20.5	4.0	12.5
Keyser	19.1	21.1	4.0	14.1
Parkersburg	17 2	19.2	4.0	11.2
Wheeling	18.4	20.4	4.0	12.4
Charlotte, N. C.	20 3	22 3	5.0	14 3
Hickory	20.8	22.8	5.0	14.8
Mt. Airy	20.5	22.5	5.0	14.5
Salisbury	20.7	22.7	5.0	14.7
Charleston, S.C.	19.3	21.3	6.0	12.3
Columbia	21.2	23.2	6.0	14.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
San Francisco	22.0	23.0	3.0	15.5
Los Angeles	21.5	22.5	3.0	15.5
Reno, Nev.	27 0	28.0	4.0	19.0
Portland, Ore.	23.5	23.5	4.0	16.5
Seattle, Wash.	22.5	22.5	3.0	16.5
Tacoma	22.5	23.5	3.0	16.5
Spokane	26.5	26.5	3.0	20 5
Phoenix, Ariz.	18.0	22.0	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where discount is 1 cent.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	19.25	21.25	4.0	13.25
McCook	29.75	22.75	4.0	14.75
Norfolk	19.75	21.75	4.0	13.75
N. Platte	20.75	22.75	4.0	14.50
Scottsbluff	20.75	22.75	4.0	14.25

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points*	20.0	21.0	4.0	†14.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 16 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.*	16.0	16.0	5.0	12.0
Baton Rouge	16.0	17.0	4.0	14.0
Alexandria	17.0	17.0	4.0	14.0
Lafayette*	18.0	20.0	5.0	14.0
Lake Charles*	16 0	16.0	5.0	14.0
Shreveport	14.0	18.0	4.0	14.0
Knoxv'le, Tenn.	20.0	22.0	5.0	16.0
Memphis	18.0	20.0	5.0	12.5
Chattanooga	20.0	22.0	5.0	16.0
Nashville	19.0	21 0	5.0	16.0
Bristol	20.0	22.0	5.0	14.0
Lt. Rock, Ark.	18.0	19.0	5.0	13 0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

TANK WAGON CHANGES

Standard Oil Co. of Kentucky reduced the gasoline tank wagon and station prices 1 cent in Birmingham, Ala., May 21 to 20 cents and 22 cents. On May 22 the gasoline tank wagon price was reduced to 19 cents in Ashland, Ky.

Standard Oil Co. of Ohio advanced the gasoline and kerosene retail prices 1 cent throughout May 24.

Standard Oil Co. of New Jersey advanced the gasoline tank wagon and station prices 1 cent in Charlotte, N. C., May 19 to 20.3 cents and 22.3 cents. On the same date the normal differential between tank wagon and station prices was re-established in Salisbury, N. C.

Magnolia Petroleum Co. reduced the gasoline tank wagon and station prices in Texarkana, May 23, to 14 cents and 15 cents. On May 24 the gasoline tank wagon and station prices were reduced 2 cents in Dallas, Tex., to 14 cents and 18 cents.

STANDARD OFFICIALS ON TOUR

A party of officials of the Standard Oil Co. of New Jersey visited Tulsa during the week and left for an inspection tour of the Oklahoma City Pool. Those making the trip were S. B. Hunt, E. J. Sadler, E. M. Clark, Orville Hardin, Richardson Pratt and E. P. Salisbury. W. S. Farish, president of the Humble Oil & Refining Co., Houston, Tex., accompanied the party.

CRUDE OIL PRICES

(Continued from Page 135)

Under 33 gravity	.61
Dutton Creek (Feb. 15, 1930)	1.25
Rock Creek, Wyo.	1.35
Salt Creek	See gravity table
Big Muddy	1.33
Grass Creek, heavy (July 27, 1928)	.90
Grass Creek, light	1.55
Mule Creek (May 21, 1929)	1.30
Elk Basin	1.55
Lance Creek	1.63
Poison Spider (March 14, 1927)	1.00
Notches (March 14, 1927)	.65
Rex Lake (February 22)	1.10
Osage	1.63
Lost Soldier (contract, May 22)	1.06
Hamilton Dome (March 14, 1927)	.85
Greybull (February 15, 1930)	1.46
Four Bear (May 21, 1929)	.85
Cat Creek	1.55
Pondera (Montana) (Feb. 15, 1930)	1.80
Sunburst (Montana) (Feb. 15, 1930)	1.65
Torchlight (May 21, 1929)	1.05
Hogback (Feb. 15, 1930)	1.40
Artesia (New Mexico)	1.05
Lea County	See gravity table

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (April 10, 1930)*	$1.15
Luling (April 10, 1930)	.85
Mirando (April 10, 1930)†	.85
Pettus (April 10, 1930)§	1.40
Salt Flat (April 10, 1930)§	1.15
Thrall‡	...
Lytton Springs (Lockhart)	See gravity table
Somerset (April 10, 1930):	
Below 33 gravity	$1.15
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.19
35 to 35.9 gravity	1.21
36 to 36.9 gravity	1.23
37 to 37.9 gravity	1.25
38 gravity and above	1.27

*Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight. §Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency

(Effective May 16, 1930)

Seep Purchasing Agency withdrew from Bradford and Allegany Fields as a purchaser on May 16.

Penna Grade Oil in National Transit Lines (Pennsylvania)	2.30
Penna Grade Oil in Southwest Pennsylvania Lines (Pennsylvania)	2.25
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.95
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (Feb. 17, 1930)	1.75
Somerset Oil in Eureka Pipe Line Lines (Kentucky) (April 11, 1930)	1.33
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (April 11, 1930)	1.47
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29)	.60
Wayne District Oil in Cumberland Pipe Lines (April 11, 1930)	1.34

Tide Water Pipe Co.

Bradford district (May 16)	$2.50
Allegany district (May 16)	2.50

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective April 11, 1930)

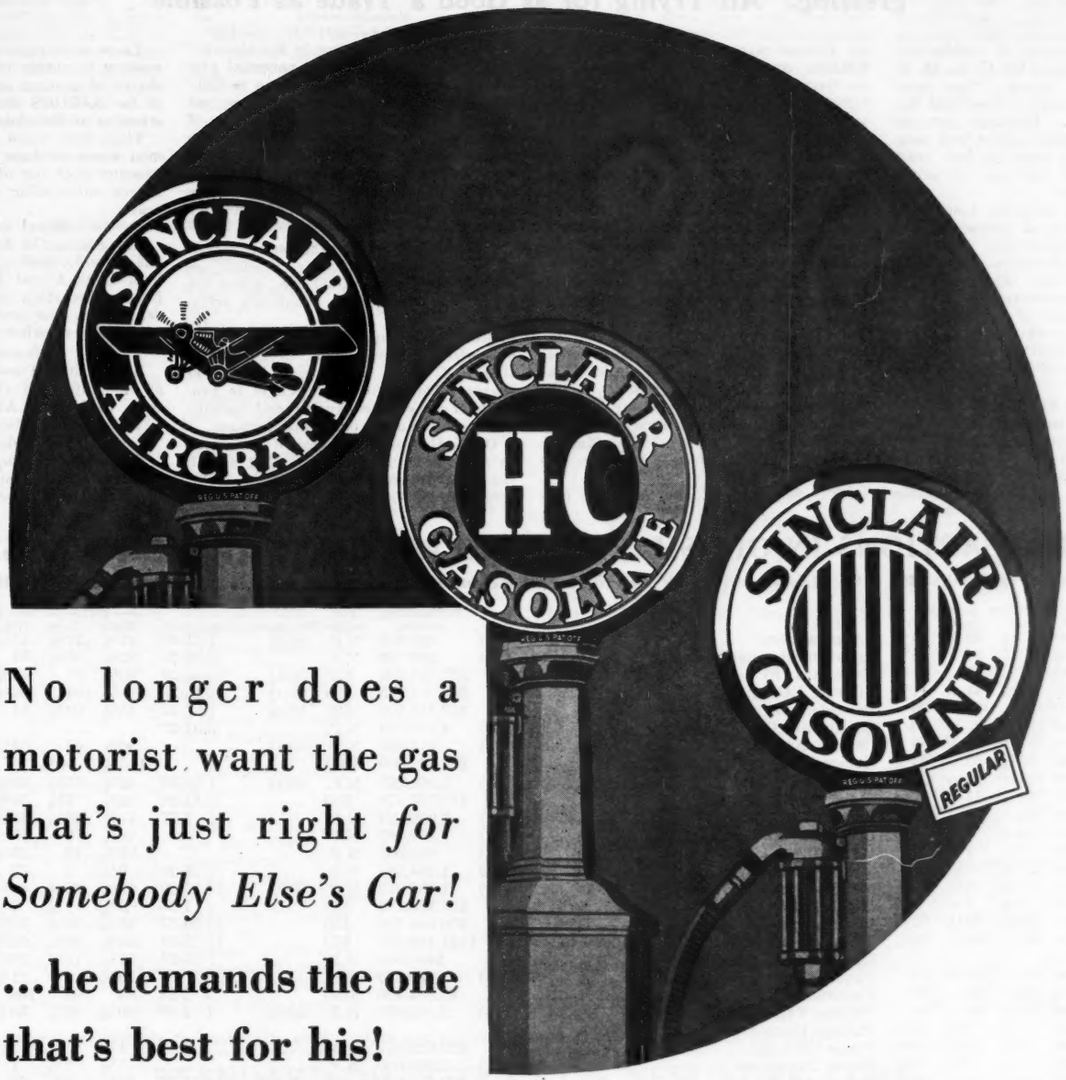
Lima	$1.70
Wooster	1.80
Illinois	1.65
Indiana	1.47
Princeton	1.65
Plymouth	1.23
Waterloo (Nov. 17, 1926)	1.35
Western Kentucky	1.55
Dundee, Mich. (April 16)‖	..... Same as Mid-Continent gravity scale
Upper and Lower Traverse sands, Mich. (April 16)‖	..... Same as Mid-Continent gravity scale
Saginaw, Mich. (April 11)†	..... Same as Mid-Continent gravity scale
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)‡	1.50
Oil in line in Stoll Oil Refinery Co. in Oil City, Ky. (April 18)§	1.45
Oil Springs (Canada) (April 11, 1930)¶	2.17
Petrolia (Canada) (April 11, 1930)¶	2.10

*Posted by Pure Oil Co. †Posted by Sun Oil Co. ‡Posted by Paragon Development Co. §Posted by Stoll Oil Refining Co. ¶Posted by Imperial Oil Co., Ltd. ‖Posted by Standard of Indiana for boat shipment. Local refiners posted Mid-Continent prices on April 11.

MEXICAN CRUDE

Panuco*	$ .67

*Based on April transactions.



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...he demands the one that's best for his!

Here's a way to build gallonage in your community!

In these days of changing engines and changing motoring conditions—no one kind of gasoline today can satisfy every motorist. It takes *three* different gasolines to do the job!

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Thirdly—if he prefers to pay three cents less per gallon but wants a gas that's full of eager power and full of economical mileage—sell Sinclair *Regular* Gasoline! The quality gasoline at a popular price.

Three different gasolines! Sinclair Dealers who offer this Three-Gas Service make satisfied customers.

SINCLAIR REFINING COMPANY. INC. 45 Nassau Street, New York—*Atlanta, Chicago, Houston, Kansas City*

SINCLAIR THREE-GAS SERVICE

Sinclair Confident of Prairie Merger

Tells Stockholders Negotiations Are Still Alive and Progressing. All Trying for as Good a Trade as Possible

At the annual meeting of stockholders of Sinclair Consolidated Oil Corp., H. F. Sinclair, chairman, stated: "Our business so far as gallonage is concerned has increased normally. Earnings for the year so far as our reports have been compiled are about the same as last year. In the first quarter this year oil prices were not satisfactory.

"I think the oil situation now is in hand. The proration of production has been a healthy development. Although prices are a little better than in the early months this year, they cannot be considered entirely satisfactory.

"The consumption of gasoline has shown an unusual increase of 14 per cent over last year. In 1929 the consumption of gasoline was about 12 per cent over the preceding year."

For the first six months of 1929 the company reported gross earnings, including miscellaneous income, of $90,957,374, against $81,698,961 in the first six months of 1928. After expenses, ordinary taxes, interest, etc., profit available for Federal taxes and reserves was $16,449,250, comparing with $9,452,955 in the first half of 1928.

With regard to merger negotiations with Prairie Oil & Gas Co. Mr. Sinclair said: "I can only say that the negotiations are still alive and progressing. Such a consolidation is a large proposition with many ramifications.

"I think we are all trying to make as good a trade as possible. However, I rather feel that sooner or later the consolidation will be made."

Mr. Sinclair anticipates substantial benefits through the acquisition of properties of Pierce Petroleum Corp., which had about 25 per cent of the oil marketing business in Mexico and had distribution facilities in Texas, Louisiana, Oklahoma, Arkansas and Missouri. The Pierce corporation last year, Mr. Sinclair said, had gasoline sales in excess of 100,000,000 gallons, whereas the Sinclair company marketed close to a billion gallons.

"The Sinclair company has more production than ever before in its history," Mr. Sinclair stated. "Our potential production at this time is very close to 120,000 bbls. a day. However, we are not running that much crude on account of proration. We are moving 40,000 to 45,000 bbls. a day, the balance being shut in." He said the company has developed in the last few months some large properties in the Oklahoma City Pool.

Questioned by a stockholder in regard to refinery operations, Mr. Sinclair declared that about 100,000 bbls. a day are being run through the company's refineries.

Stockholders approved increase in the authorized common stock to 20,000,000 shares of no-par value from 10,000,000 shares. The additional stock is to provide for possible expansion and consolidation or for other corporate purposes.

O. M. Gerstung was elected a director to succeed D. L. Hoober. Both are in the Sinclair organization. Other directors were re-elected.

There were represented at the annual meeting in person or by proxy 3,868,510 shares of common stock, or 71 per cent of the 5,460,008 shares of common outstanding at the close of 1929.

There were voted in favor of the common stock increase 3,868,442 shares of common stock out of a total of 5,460,008 shares outstanding at the close of last year.

Signal Oil & Gas

The Signal Oil & Gas Co. declared a quarterly dividend of 50 cents a share on both Class A and B stock outstanding, placing the stock on a $2 annual dividend basis. The new dividend is payable June 10 to stockholders of record May 20.

Plymouth Oil

At the annual meeting of stockholders of the Plymouth Oil Co. the directors were re-elected. At subsequent meeting of directors the officers were re-elected.

Columbian Carbon

Columbian Carbon Co. and subsidiaries report for quarter ended March 31, 1930, net income of $810,005 after depreciation,

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended May 21 Sales	Week ended May 21 High	Week ended May 21 Low	Week ended May 21 Close	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
29¾	18	200	23⅞	23⅞	23⅞	Amerada Corp.	(sh)	922,075	N.P.	50cQ	1-31-30	37⅝	27⅝	43⅞	27⅛	42⅝	17½
37	20½	600	24⅞	24	24⅞	American Republic Corp.	(sh)	209,180	N.P.	.....	3-20-29	82½	35⅛	85	51⅛	64¾	12½
50¼	32½	100	47½	47½	47½	Associated Oil		$57,260,300	$25	50cQ	12-31-29	50¼	35	53⅜	37½	47¼	34½
51⅜	36¼	x1,500	41⅝	41	41⅛	Atlantic Refining		$66,763,775	$25	25cQ	12-16-29	131⅜	104	66⅜	50	77⅞	30
34	20⅛	1,400	26⅜	26	26	Barnsdall Corp.		$56,546,600	$25	50cQ	12-7-29	35½	20¾	53	20	49⅛	20
30½	19½	2,300	26⅝	25⅝	26	Continental Oil of Delaware	(sh)	4,741,554	N.P.	.....	3-31-27	..	..	..	..	47⅛	18
71⅛	49⅛	300	57¼	56	56	General Asphalt	(sh)	413,333	N.P.	50cQ	.....	96¾	65	94⅞	68	94⅜	42¼
116⅞	52¼	10,500	96¾	92	94⅝	Houston Oil		$24,968,600	$100	.....	.....	175¾	60⅛	167	79	109	26
32	20¼	200	25⅜	25⅛	25⅛	Independent Oil & Gas	(sh)	1,362,295	N.P.	50cQ	1-31-30	32¾	17⅝	38⅜	21¾	39⅜	17¾
28¾	16	12,200	18¾	17½	17⅝	Indian Refining		$12,565,070	$10	.....	5-31-24	12⅛	7⅝	39⅝	9	53	13⅛
26½	21¼	100	24	24	24	Lago Oil & Transport	(sh)	3,992,122	N.P.	.....	5- 1-27	37¾	20½	39⅛	27⅜	38⅜	16½
12	8	100	10	9¾	10	Louisiana Oil Refining	(sh)	1,190,063	N.P.	.....	.....	18⅛	10	19¾	9⅜	18	7
10⅜	5⅛	100	7	7	7	Maracaibo Oil	(sh)	330,000	N.P.	.....	.....	22¾	12	25½	12½	18½	5⅛
37	16⅛	9,400	27⅛	26⅛	27	Mexican Seaboard	(sh)	1,244,383	N.P.	.....	12-15-20	9¼	3	72	4⅝	69⅜	9¼
33	23½	800	27⅛	26⅞	26⅞	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	12-15-29	39⅜	25½	44½	25⅛	39⅞	22⅛
2½	⅞	800	1½	1¼	1½	Middle States, ctfs.		$23,736,130	$10	.....	7- 1-23	3¾	1⅝	7⅜	2⅜	5⅛	¾
64¼	51⅝	100	60⅛	60⅛	60⅛	Pan American P. & T.		$50,084,700	$50	.....	10-20-27	65⅞	40⅛	54⅞	38¼	69	40½
67½	50½	1,400	63	61¾	61¾	Pan American P. & T. "B"		$121,110,650	$50	.....	11-15-24	66⅜	40¼	58⅞	37¾	69¼	40½
		No sales.				Pan American Western B		$400,000	N.P.	.....	1-30-27	37⅞	16¾	28⅜	15½	18½	13⅝
12¾	4⅛	400	11	10¾	11	Panhandle P. & R.	(sh)	199,370	N.P.	.....	.....	18⅞	8	21¾	11½	15¼	3
80	47½	1,100	80	80	80	Panhandle P. & R. pfd.		$2,564,400	$100	.....	7- 2-23	83	54	108	70	76	47½
44¾	29⅛	2,000	38⅜	38	38	Phillips Petroleum	(sh)	2,593,075	N.P.	50cQ	1- 2-30	60¼	36¼	53⅞	35¼	47	24¼
1⅞	1⅜	2,100	1½	1⅜	1⅜	Phillips Petroleum rts											
2½	1	600	1¾	1⅝	1⅝	Pierce Oil Corp.		$29,622,831	$25	.....	.....	1⅛	½	5¼	½	3⅜	1
7⅛	2¼	25,200	6¼	5¾	5⅞	Pierce Petroleum	(sh)	2,500,000	N.P.	.....	.....	5½	2½	7	3½	5⅞	½
54	45	200	46½	46½	46½	Prairie Oil & Gas		$60,848,000	$25	50cQ*	12-31-29	55½	45⅝	68	46	65⅝	40½
60	50¼	200	52	52	52	Prairie Pipe Line		$101,250,000	$25	75cQ†	12-31-29	190	130¾	280	172	65	45
11⅞	6½	200	8¼	8¼	8¼	Producers & Refiners		$37,438,950	$50	.....	9-15-23	33⅞	16¾	29⅞	16	25⅞	4
40	31	200	35	35	35	Producers & Refiners pfd.		$2,845,350	$50	.....	5- 1-25	50	36⅞	49⅝	41	46⅜	25½
27¼	21⅜	600	23⅜	21⅜	23¼	Pure Oil		$75,959,250	$25	37½cQ	12- 2-29	33½	25	31⅝	19	30⅜	20
28¼	20⅝	1,100	22½	22¼	22½	Richfield Oil		$52,410,875	$25	50cQ	11-15-29	28⅝	25⅜	56	23	49⅝	20
25¾	16½	700	21⅜	20½	20⅞	Rio Grande Oil	(sh)	1,236,270	N.P.	$2A	7-25-29	..	..	37½	32	42½	15
56½	49¼	1,400	53½	53¼	53¼	Royal Dutch, N. Y.	(sh)	611,303	$1.873	.....	9-13-29	54½	44¼	64	44⅝	64	43⅛
48⅜	42⅜	20	45¼	45¼	45¼	Shell Transport & Trading Co.		£23,985,000	£1	$1.45	7-23-29	48⅝	40½	47⅞	41⅜	57½	40⅝
25½	20⅛	900	21⅝	21¼	21⅜	Shell Union Oil	(sh)	13,066,497	N.P.	35cQ	12-31-29	31¾	23⅝	39¼	23¼	31¾	19
37	22⅞	700	27½	26⅞	26⅞	Simms Petroleum		$8,353,620	$10	40cQ	12-14-29	25⅜	14¼	27¼	18⅛	40⅛	15
32	21⅝	7,900	27⅜	26¾	26⅞	Sinclair Consolidated	(sh)	5,500,000	N.P.	50cQ	1-15-30	22⅜	15	46¾	17⅜	45	21
112¼	109	200	110	110	110	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-15-29	104½	97	110	102½	111	103
42	28⅞	2,200	35¾	34¼	35¾	Skelly Oil		$27,441,250	$25	50cQ	12-16-29	37⅝	24⅛	42⅝	25	40½	28
75	55½	800	69⅝	68¾	69	Standard Oil of California	(sh)	12,594,098	N.P.	62½cQ	2-15-30	60¾	50⅜	80	63	81⅞	51½
49	37¼	400	41	41	41	Standard Oil of Kansas		$8,000,000	$25	50cQ	12-16-29	20⅞	14⅝	37¾	15	33¾	18
84⅞	58	32,800	76⅝	74⅞	75¾	Standard Oil of New Jersey		$634,999,200	$25	25cQ*	12-16-29	41⅜	35⅛	59⅜	37¾	83	49
40⅜	31¼	5,000	35⅞	35¼	35¼	Standard Oil of New York		$445,223,675	$25	40cQ	12-16-29	34½	29¾	44¼	28¾	48⅛	31¾
70	53	200	64½	64½	64½	Sun Oil	(sh)	1,416,869	N.P.	25cQ	12-16-29	34⅞	30	77	31½	86⅜	55
9⅜	5¼	1,600	7⅝	7¼	7¼	Superior Oil Corp.	(sh)	776,979	N.P.	.....	12-20-20	..	..	..	..	24	5¼
60½	50⅞	2,800	57½	56¾	57⅛	The Texas Corporation		$246,204,900	$25	75cQ	1- 1-30	58	45	74¾	50	71⅞	50
14½	8⅞	500	10⅝	10⅝	10⅝	Texas Pacific Coal & Oil Co.		$9,304,890	$10	2½%A‡	12-31-29	18⅞	12	26⅝	12⅛	23⅞	9½
31	19½	200	30¾	28¾	30¾	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	12-31-29	29⅛	19	41½	19⅝	40	14
94⅞	86⅛	900	94¼	93⅞	94¼	Tide Water 5½% pfd.		$19,947,000	$100	$1.25Q	11-15-29	90⅛	85	100⅛	86	97½	85⅛
17¾	10¾	1,100	16	15¾	15¾	Tide Water Associated	(sh)	5,560,424	N.P.	30cS	2-15-30	19⅛	15¾	25	14¾	23½	10
89¾	78	300	88½	88⅜	88½	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	2- 2-30	..	..	..	..	90⅞	74⅛
24	16¼	4,700	20⅛	19⅛	19½	Transcontinental Oil	(sh)	3,742,029	N.P.	.....	.....	10⅜	3¾	14¾	7¼	15¼	5⅛
50	41⅛	200	45	45	45	Union Oil of California		$104,342,375	$25	50cQ	11- 9-29	56½	39⅝	58	42⅜	57	42⅛
38½	31	200	32	32	32	Union Tank Car	(sh)	1,254,048	$100	$1.25Q	12- 2-29	127½	94	128⅛	110	163¾	121⅞
27	16⅝	700	18¼	18	18	Warner-Quinlan	(sh)	632,948	N.P.	50cQ	1- 2-30	34½	24½	44⅞	26	42⅞	15
		No sales.				White Eagle Oil & Refining	(sh)	505,100	N.P.	50cQ	1-20-30	27½	20	38	20⅛	38	25
21	11½	200	18⅜	18	18⅜	Wilcox Oil & Gas	(sh)	428,907	N.P.	.....	5-10-28	..	..	..	..	29¾	12⅞

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock.

In comparing highs and lows for the several years in the three tables it will be necessary to take into consideration cases where there have been splits in the stock.

depletion and federal taxes, equivalent to $1.62 a share on 498,505 shares of no-par stock. This compares with $1,059,957, or $2.32 a share on 457,344 shares, in first quarter of 1929.

The Texas Corporation

The Texas Corporation declared the regular quarterly dividend of 75 cents, payable July 1 to stock of record June 6.

Midland Natural Gas

The Midland Natural Gas Co. is not a subsidiary of Columbia Gas & Electric but an independent company, according to E. K. Edie of the Midland Management, Inc., operating managers of the Midland Natural Gas Co., Twin State Natural Gas Co., and subsidiaries of Inland Utilities, Inc.

"The only connection between the two companies," says Mr. Edie, "is that certain subsidiaries of Columbia Gas & Electric Co. are purchasers of a portion of the natural gas produced by Midland Natural Gas Co."

North Central Texas Oil

North Central Texas Oil Co. declared the regular quarterly dividend of $1.62½ on the preferred stock, payable July 1 to stock of record June 10.

Pierce-Sinclair

William H. Cloverdale, chairman of the board of the Pierce Petroleum Corp., has called a special meeting of stockholders for June 12 to vote on the sale of the assets of the company to Sinclair Consolidated Oil Corp. Pierce Petroleum will receive 666,667 shares of Sinclair stock for the 2,500,000 outstanding shares of Pierce stock. A two-third vote by Pierce stockholders is required to ratify the sale.

Standard Oil Export

Standard Oil Export Corp. has increased its capital stock from $75,000,000 to $77,000,000 to provide for the exchange of the remaining minority shares of the Anglo-American Oil Co., Ltd. A total of 94 per cent of the Anglo-American stock has been deposited under the agreement and the additional $2,000,000 capital will provide for the acquisition of the remaining 6 per cent.

Continental Oil

At annual meeting of Continental Oil Co. of Delaware, Franz Schneider of Newmont Mining Co. was elected a director in the place of Fred Searles, also of Newmont Mining Co., who resigned. Vernon F. Taylor, Albert Brunker, E. T. Wilson and S. H. Keoughan also resigned as directors and their places were temporarily filled, the intention being to reduce the directorate to 11 members from 15.

Mountain Producers

The Mountain Producers Corp., one of the principal leaseholders in the Salt Creek Field, mailed its annual report covering 1929 operations to stockholders this week. It showed operating earnings of the company and its subsidiary, the Wyoming Associated, from the sale of oil, gas and other resources, without depletion and Federal taxes, but after payment of royalties, administration and oth-

(Continued on Page 143)

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended May 21 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
⅝	⅛	200	1/16	1/16	1/16	Amer. Con. Oilfields		$11,018,000	$5	.....	.....	2 1/16	.55	1½	.53	72c	⅛
4½	1½	1,100	3¾	3⅝	3¾	Amer. Maracaibo	(sh)	700,000	N.P.	.....	.....	7½	2¾	9½	3½	8⅝	1⅛
1⅜	1	100	1	1	1	Argo Oil	(sh)	683,971	$10	.....	.....	2¾	1	4½	2¼	5	1½
21	20½	100	21	20½	21	British American (new, C.W.I.)		$1,311,321	N.P.	25cQ*	1- 2-30	40	20½	55	32¾	62	7⅛
2⅜	¾	100	1⅞	1⅞	1⅞	Carib. Syndicate		$131,250	25c	.....	.....	28¼	15½	4½	3⅞	4⅞	1
44¼	26½	25,200	35¼	34⅜	35	Cities Service	(sh)	24,290,359	N.P.	30cA†	1- 2-30	58¾	40¼	90⅞	54	68⅛	20
93⅞	88	200	93⅜	93	93⅜	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	1- 2-30	95⅝	87	103½	94½	98¾	84
¾	¼	100	½	½	½	Columbia Syndicate		$2,000,000	$1	.....	.....	3⅞	1⅛	3¼	.76	2	½
5⅞	3⅞	100	4	4	4	Cons. Royalty		$5,000,000	$10	15cQ	10-25-29	9⅜	6⅜	8⅞	6¼	11⅛	2½
7½	5⅝	1,000	6⅛	6⅛	6⅛	Creole Petroleum	(sh)	5,977,873	N.P.	.....	.....	14⅞	9½	17½	9½	11¾	5⅝
1	¼	100	⅝	⅝	⅝	Crown Central	(sh)	578,000	N.P.	.....	.....	3	.50	3¼	.76	2½	¼
12⅞	7¼	600	10	9¾	9¾	Darby Petroleum	(sh)	1,019,392	N.P.	25cQ	1-15-30	12	4	33½	3¼	26	6½
11	4½	200	7¾	7¾	7¾	Derby Oil & Refining		500,000	N.P.	.....	.....	2½	74	2¼	1	11	2
60	30	200	54	53	53	Derby Oil & Refining pfd		$48,500	N.P.	.....	.....	16¾	4	21⅜	7½	44	20¾
166⅞	131¼	600	150	148	148	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	1- 1-30	118	86¼	165	101⅛	209	115
1¾	¾	1,600	1⅜	1¼	1⅜	Intercontinental Pet.		$5,682,000	$5	.....	.....	2½	.80	3⅜	1	2⅞	⅝
3	1⅞	800	2¼	2⅛	2⅛	Kirby Petroleum	(sh)	750,000	N.P.	.....	.....	2¼	1⅛	3	1¼	3⅝	1¼
4¾	1⅛	1,100	2⅝	2½	2½	Leonard Oil & Dev.		$50,000,000	$25	.....	.....	10⅞	5⅛	9⅜	5⅛	6⅛	1
29	18⅝	100	27⅛	27⅛	27⅛	Lion Oil & Refining	(sh)	250,000	N.P.	50Q	1-31-30	27½	20	43⅞	20	38⅞	18
55⅞	34⅛	700	53	52½	52½	Lone Star Gas	(sh)	5,000,000	N.P.	20cQ	12-31-29	59⅜	37	69⅛	48½	67⅞	28
½	¼	400	1/16	1/16	1/16	Lone Star Gas R Ts		.....	....	.....	.....	..	..	..	..	..	..
16	12	100	15⅛	15⅛	15⅛	Magdalena Syndicate	(sh)	850,000	$1	.....	.....	2⅞	.80	1⅞	.50	1¼	¼
7½	2	100	3¼	3¼	3¼	Margay Oils		$160,000	N.P.	50cQ	1-10-30	52	12	48½	32	38½	14
¾	½	600	½	½	½	Mexico-Ohio Oil		.....	....	.....	.....	12⅛	5	8	2¾	6⅜	2½
12⅛	8	100	10¼	10¼	10¼	Mountain & Gulf		$4,000,000	$1	2cQ	1-15-30	1½	1	1⅜	.76	1½	¼
3½	2⅜	700	2⅝	2½	2½	Mountain Producers		$1,682,182	$10	40cQ	1- 2-30	29¼	22¾	28⅞	19½	22⅞	7
7¼	3½	100	5	5	5	New Bradford Oil		$1,095,291	$5	12½cQ	1-15-30	5⅞	4⅝	5⅝	4¼	5	2¼
11¼	6⅞	100	8⅞	8⅞	8⅞	New Mex. & Arizona		$1,000,000	$1	.....	.....	16	9¼	11⅞	7⅛	9⅜	2¼
2½	1	18,400	1¾	1½	1¾	North Central Texas	(sh)	400,000	N.P.	15cQ	12- 2-29	12¾	9½	14¼	8½	18½	6⅛
4⅜	1⅞	200	3	2⅞	2⅞	Pandem	(sh)	489,875	N.P.	.....	.....	9⅜	3¼	6	2⅛	3½	½
		No sales.				Pantapec Oil	(sh)	1,506,000	N.P.	.....	.....	12⅛	7	15⅝	8½	10¼	1⅞
10½	9	300	10½	10	10	Pennok Oil		$150,000	N.P.	.....	.....	13½	5⅛	7¾	4⅞	7¾	4⅜
5⅜	2⅛	200	3½	3½	3½	Red Bank Oil	(sh)	250,000	N.P.	.....	.....	24⅜	7	18	4⅞	16	9⅝
8⅝	3⅝	200	7⅜	7⅜	7⅜	Reiter-Foster	(sh)	388,584	N.P.	10cQ	12- 9-29	15½	3½	12⅞	4½	8½	1⅜
2½	1½	200	1¾	1¾	1¾	Ryan Consolidated	(sh)	500,000	N.P.	.....	.....	7	4½	12	4⅛	11	3
15¼	10	200	12½	12⅜	12⅜	Salt Creek Consolidated	(sh)	1,286,300	$10	10cQ	1- 2-30	8	5¼	7¼	5½	5⅞	1⅞
1	½	200	¾	¾	¾	Salt Creek Producers	(sh)	1,496,859	$10	50cQ	2- 1-30	35½	27¼	35	23⅛	25⅞	9
		No sales.				Savoy Oil		$750,000	$5	.....	.....	7	1¼	3½	1	2½	1/16
4½	2¼	1,400	3⅛	3	3	Transcontinental pfd.		.....	....	.....	.....	..	..	..	..	..	..
4¾	2	300	4¾	4¾	4¾	Venezuelan Petroleum	(sh)	755,000	$5	5cQ	11-15-29	7⅜	4¼	9⅛	4¾	6½	1⅜
2½	½	200	2	1¾	2	Woodley Petroleum		$500.000	$1	.....	.....	7	4⅜	8¼	4⅞	9½	2
1½	1	24,600	1⅛	1	1 1/16	Y Oil & Gas (new)		$100,000	N.P.	.....	.....	6	1¾	8⅜	2⅛	2⅞	¼

*Including one-half per cent monthly in stock. †Payable monthly and a monthly stock dividend of one-half per cent

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended May 21 Sales	High	Low	Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
18⅜	12¼	200	18⅜	18⅜	18⅜	Anglo-American Oil (vot. C.O.D.)	£4,192,635	£1	.36 1/8	11-27-29	21⅝	17⅛	22⅜	14⅞	17	11
1	½	100	¾	¾	¾	Atlantic Lobos	.....	....	.....	.....	..	..	..	..	..	..
25	20	500	23	20	20	Borne Scrymser	$1,000,000	$25	$18A	10-15-29	69	50	56½	44½	46½	25
69	57	100	57	57	57	Buckeye Pipe Line	$10,000,000	$50	$1Q	12-14-29	60	45	76	53	74¼	55
184⅞	155	100	168¾	168¾	168¾	Chesebrough Mfg.	$3,000,000	$25	$1Q*	12-30-29	126	76½	161	117	210	130
17¾	12⅛	100	17½	17½	17½	Continental Oil (V.T.C.)	$36,057,840	$10	.....	12-15-27	22⅝	16¼	23	16	29	10
65⅜	40½	50	54⅜	54⅜	54⅜	Cumberland Pipe Line	$1,500,000	$50	$1Q	12-15-29	137	89	114	67	75⅝	40
54¾	43	50	46	46	46	Eureka Pipe Line	$5,000,000	$100	$1Q	11- 1-29	68½	47	88	64⅛	70½	42
7	2½	1,100	6⅜	6¼	6¼	Galena Signal Oil, etfs. of dep.	$16,000,000	$100	.....	.....	13½	3½	13	4¼	6½	3
119	78	700	103	100⅛	103	Humble Oil & Refining	$74,103,300	$25	50cQ	1 1-30	68½	54	114⅜	59¼	128	74⅛
311	305	100	307	307	307	Illinois Pipe Line	$20,000,000	$100	$10SA	12-16-29	182	123¾	290½	176½	340½	260
30	22⅛	200	24¾	24⅝	24¾	Imperial Oil Co., Ltd.	26,421,768	N.P.	12½cQ	12- 2-29	64¾	37¾	104	56¾	41	22
41	37	200	38⅜	37⅝	37⅞	Indiana Pipe Line	$3,000,000	$10	50cQ‡	2-15-30	94½	61	91⅞	74⅜	41⅞	26
24	17⅞	1,800	20⅞	20½	20⅞	International Pet.	14,247,088	N.P.	12½cQ	12-16-29	29	28¼	55	35	30⅜	15
22⅜	18⅜	200	19	19	19	National Transit	$6,362,500	$12.50	25cQ‡	12-16-29	24	13½	32⅜	19⅜	25⅛	10½
20½	14	500	20½	18½	20½	New York Transit (new)	$1,000,000	$10	40cQ†	1-15-30	44½	31¼	75	38½	17½	10
54	37	100	37	37	37	Northern Pipe Line‖	$2,000,000	$50	$28A	1- 2-30	100	70	69	56½	63	41
74⅞	66⅛	100	71¾	71¾	71¾	Ohio Oil	$60,000,000	$25	50cQ‡	12-14-29	67⅞	52	84	58½	79⅞	64⅛
32	20	400	22⅝	22½	22½	Penn Mex. Fuel	$10,000,000	$25	50cQ	12-14-29	39	12	84	28	44½	20
33	21⅜	200	22	22	22	Solar Refining	$4,000,000	$25	$1.25SA	12-20-29	..	..	..	..	50	29
20⅞	13	100	16	16	16	Southern Pipe Line	$1,000,000	$10	50cQ	.....	27¼	15½	19	15	22½	13
45⅞	37½	100	39¾	39¾	39¾	South Penn Oil (new)	$30,000,000	$25	50cQ	12-30-29	41½	35	71⅞	36¾	60¼	35⅛
64	50	50	51	51	51	Southwest Pa. Pipe Lines	$1,750,000	$50	$1Q	10- 1-29	83	55½	102	70	70	60
59⅞	49⅞	1,200	54	53⅛	53⅝	Standard Oil of Indiana	$348,175,069	$25	62½cQ‡	12-16-29	81½	64⅜	95⅞	70⅞	63	45
40½	33¼	300	35⅜	35	35⅛	Standard Oil of Kentucky	$25,654,516	$10	40cQ	12-16-29	130	111½	179¾	122¼	46⅞	29
48⅞	44⅛	100	48⅛	48⅛	48⅛	Standard Oil of Nebraska	$4,649,225	$25	62½cQ‡	12-20-29	49½	40	54⅞	39⅞	50¼	40
108½	81	100	94	94	94	Standard Oil of Ohio	$14,000,000	$25	62½cQ	1- 2-30	87½	72	134	71	129	60
10	8	100	8	8	8	Swan-Finch Co.‖	$861,466	$25	.....	12- 2-29	21	14½	23½	16	18	10
97⅞	85⅞	1,000	87½	86¾	86¾	Vacuum Oil Co.	$126,180,350	$25	$1Q	12-20-29	..	..	111	72	133¾	75

*Plus 50 cents extra. †Plus 10 cents extra. ‡Plus 25 cents extra. ‖Bid and ask. x Ex-dividend.

METHODS OF TREATING CRUDE OIL EMULSIONS

(Continued from Page 35)

is desirable to equip each unit with a thermostat control in order that the fluid may be held at a constant temperature. Heaters of all types should be either insulated or housed. This will not only aid in keeping the temperature of the fluid at a minimum, but will also lower the fuel consumption. In a few cases where it has been tried, the insulation of oil lines from the heater has been instrumental in raising the gravity as much as 2°.

Cost of Treating

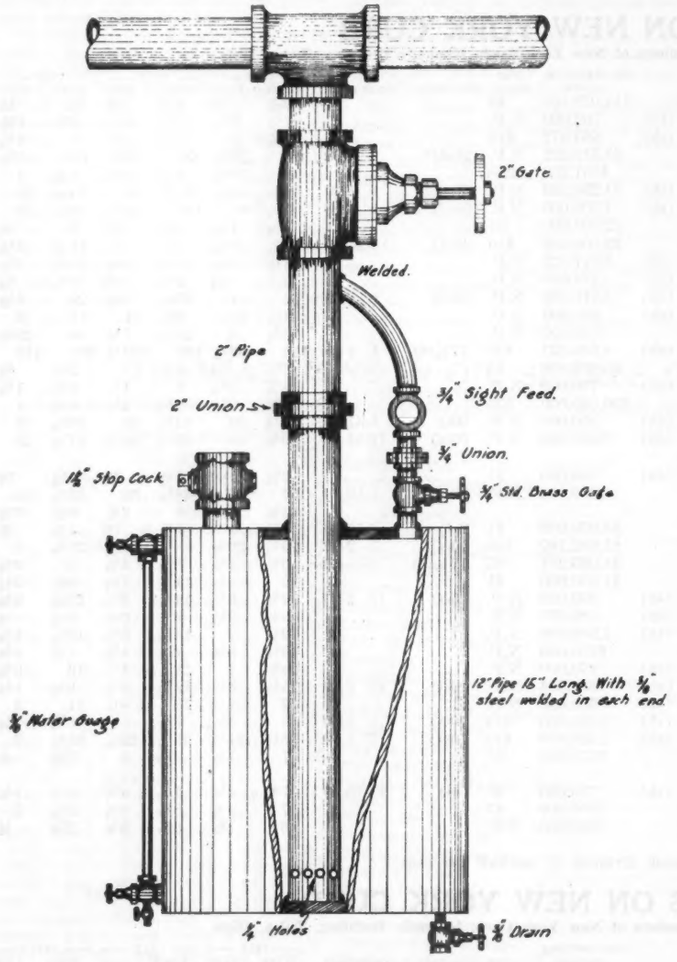
Because of the lack of existing records, the cost data cannot be very comprehensive. One company operating in the Mid-Continent treated some 3,000,000 bbls. of oil at a cost of .008 cent per barrel. This cost includes interest on investment, plant depreciation, labor, chemical and supervision. This is considerably below the average, which generally runs between 1 and 2 cents.

Effect on Gravity

An item of much more importance than the cost of treating is the net profit derived from this work. In the effort to reduce operating cost many other factors may be overlooked. In the treating of any oil, the effect of the system of treating upon the gravity is of great importance. It is possible by the application of too much heat to reduce the gravity of the oil 2° or 3°. In treating any emulsion there is an economic ratio of heat and chemical, depending upon the condition of the emulsion. Frequently it has been discovered that by increasing the amount of chemical and reducing the amount of heat, the gravity will be raised several degrees. With every degree raised in gravity, the rate of evaporation is lowered and the volume increased approximately 3 per cent. When the oil is carried over into the stock tank at a high temperature, the pipe line companies make a hot oil reduction, which should be charged against the treating cost.

A specific example of what can be accomplished by using the correct heat-chemical ratio is illustrated by the following results of a test made on 100 bbls. of 34.6 gravity crude:

The oil was heated to 125° and 6½ gallons of chemical used. A drop in gravity of 1° and a loss in volume of 4 per cent was noticed. Another sample was heated to 180° and 4½ gallons of chemical used. In this instance, a drop of 2° in gravity and 7 per cent in volume was noticed. The following computation shows clearly the effect of each method on the cost:



INVERTED LUBRICATOR

TEST MADE ON 100 BBLS. 34.6 GRAVITY CRUDE

Temperature at Heater, 125° F.	
6½ gallons chemical at $2	$13.00
1° gravity loss at 3½ cents per bbl. per degree	3.50
4 per cent volume loss, 4 bbls. at $1.22	4.88
Total 125°, 6½ gallons chemical	$21.38
Temperature at Heater, 180° F.	
4½ gallons chemical at $2	$9.00
2° gravity loss at 3½ cents per bbl. per degree	7.00
7 per cent volume loss, 7 bbls. at $1.22	8.54
Total 180°, 4½ gallons chemical	$24.54
Total 125°, 6½ gallons chemical	21.38
Saving effected by less heat and more chemical	$3.16

Summary

In summarizing the facts pertinent to oil treating in the Mid-Continent, it is found that, with a few exceptions, the emulsions are water in oil, and are formed in the majority of cases by excess agitation. Much of the treating of oil can be avoided by the elimination of the causes of this agitation.

A combination of chemical, heat and settling is the prevailing method of treating, all other methods proving either inadequate or uneconomical. Down hole treating is proving successful on gas lift and pumping wells. This method cannot be universal, however, because of the economics of operating various pumping properties. In treating on the surface force feed lubricators are proving the most practical. Whether the chemical is injected into the lead lines or down the hole, diluting with soft water will increase the efficiency. The prevailing heater is the old field boiler with an efficient low-pressure burner. Large settling tanks give the best results and in the case of small production, all tanks should be welded and made vapor proof. The average cost of treating is between 1 and 2 cents, but a low operating cost should not be strived for at the expense of gravity and volume. It will pay the operator to check the effect of the treating system on gravity in every instance. There is still much work to be done in checking the efficiency of various treating units, in developing oil soluble chemicals and in further development of down-the-hole treatment.

EXECUTIVES SEEK ENGINEERS' COUNSEL

(Continued from Page 31)

cussion by the men present and a number of points were brought up by the engineers as to their attitudes on this very broad problem and some of them thought that the decision as to when and where to drill is a function of the executives of the companies only, while the engineering departments can only make recommendations as to the mechanical conditions. This was intended to take in geological and land departments for every department in the organization must play its part, but the engineers seemed to think that final decision as to policy remains with the executives alone.

This was granted by Mr. Reeser but he still maintained that the executives of the larger companies look to the engineer for their recommendations and desire that they make them voluntary as occasion seems to require, not wait for the executives to ask for reports, for in many instances conditions may not come to their attention as quickly as they are made evident to the engineer.

In other discussions it was suggested that the engineer in making his report apply practical examples to illustrate his points and give estimates of costs and profits to be gained, for the executive can and does examine reports in that light primarily while the engineer seems prone to think in terms of mechanical details largely.

The engineer who is looking at his problems through the eyes of his executive and studying them with relation to their practical and economical value, and then so making his reports that they are condensed and so written as to be quickly read and easily understood is performing a welcome service. This is because the executive is a busy man and cannot possibly delve into all the details the engineer is accustomed to study but he will learn to rely upon the judgment and recommendations of his engineers when they place their propositions before him in concrete form and make comparisons that will show the value of the proposals from a dollar and cent standpoint for in the last analysis this is really the keystone of all good engineering. If a thing will not pay there is very little practical use of doing it in this day and age of competitive operations.

Advisory Committee Formed

C. A. Young outlined the new set up of the American Petroleum Institute and the duties of the production division. He made a suggestion that an advisory committee be elected for this district and this was done.

The new officers for the Mid-Continent district were elected at this meeting and they are Reid W. Bond of the Shell Petroleum Corp., chairman; Robert R. Hawkins, The Texas Company, vice chairman, and Ernest L. Bell, Deep Rock Oil Co., Drumright, Okla., secretary. The advisory committee elected follows: A. W. Ambrose, the Empire Companies, Bartlesville; C. W. Baker, T. B. Slick, Inc., Tulsa; R. A. Bonnell, Tidal Oil Co., Tulsa; J. J. Conry, Carter Oil Co., Tulsa; J. S. Dewar, Phillips Petroleum Corp., Bartlesville; C. P. Dimit, Independent Oil & Gas Co., Tulsa; George A. Dye, Wilcox Oil & Gas Co., Tulsa; E. R. Filley, The Texas Company, Tulsa; L. C. Hawkins, Magnolia Petroleum Corp., Oklahoma City; A. V. Hoenig, Indian Territory Illuminating Oil Co., Bartlesville; J. E. Holm, Atlantic Oil Producing Co., Tulsa; R. K. Huey, Deep Rock Oil Corp., Tulsa; R. F. MacArthur, Barnsdall Oil Co., Tulsa; W. A. Martin, Sinclair Oil & Gas Co., Tulsa; George O. Moody, Mid-Continent Petroleum Corp., Tulsa; E. J. Nickols, Continental Oil Co., Ponca City; F. O. Prior, Dixie Oil Co., Tulsa; W. G. Ricketts, Amerada Petroleum Corp., Tulsa; George Porter, Wirt Franklin Oil Co., Oklahoma City; Ralph Roark, Shell Petroleum Corp., Tulsa; S. G. Sanderson, Gypsy Oil Co., Tulsa; H. F. Schoonover, Pure Oil Co., Tulsa; H. M. Stalcup (chairman), Skelly Oil Co., Tulsa; M. E. Wagner, Mid-Kansas Oil & Gas Co., Tulsa, and J. A. Wolfe, Prairie Oil & Gas Co., Tulsa.

The chairman of the district, Reid W. Bond, is also an ex-officio member of this committee.

Other Chairmen Present

Chairmen from other districts were present at this meeting, among them being J. French Robinson, Pittsburgh, Pa., representing the eastern group; H. N. Marsh from Los Angeles, Calif., representing the Pacific Coast group, and Walter H. Meier of Dallas, Tex., for the southwestern group. These gentlemen were called upon for brief reports of the activities in their divisions.

The afternoon session was presided over by W. K. Whiteford and F. W. Robson and the first paper was delivered by R. R. Hawkins. It was entitled "Recent Development in Deep Well Pumping." Mr. Hawkins was assisted in the preparation of this paper by D. L. Trax, Gypsy Oil Co.; E. A. Carr, Pure Oil Co.; L. F. Thompson, Carter Oil Co., all of Tulsa, and E. H. Griswold, Continental Oil Co., Ponca City.

The next paper was "Weighing Wells," presented by L. F. Thompson and this was another group paper in which R. M. Carr, Sinclair Oil & Gas Co.; H. D. Collins, Gypsy Oil Co.; R. R. Hawkins, The Texas Company, and L. F. Thompson, Carter Oil Co., discussed.

The discussion following these papers was very interesting and B. H. Robinson of the General Petroleum Corp. of Los Angeles, Calif., read a paper on weighing wells in that area which was well received and developed considerable information about pumping wells below 6,000 feet depth. This information is of particular value at this time in connection with the development of the Oklahoma City Pool and the data submitted seems to indicate that this can be done successfully.

Technical Session

The technical session of May 24 was called to order by R. R. Hawkins who acted as chairman with C. V. Millikan and the first paper presented was one on "Mud Fluids," by C. P. Parsons of the Halliburton Oil Well Cementing Co., Duncan, Okla. H. F. Beardmore of the Indian Territory Illuminating Oil Co., Oklahoma City discussed this paper and L. G. E. Bignell also presented some data on the "Carrying Capacity of Mud Fluids" based upon the article printed in The Oil and Gas Journal of May 22.

C. D. Miller of the Barnsdall Oil Corp. presented another group paper that was compiled by him from information submitted by P. L. Guarin, Shell Petroleum Corp.; R. R. Hawkins, The Texas Company; Charles Prather, Gypsy Oil Co.; G. A. Shaner and I. S. Salinkov, Carter Oil Co., all of Tulsa, and L. A. Ogden of the Empire Companies, Bartlesville, Okla., on "Oil Treating Methods in the Mid-Continent."

This paper brought forth considerable discussion and a suggestion from I. S. Salinkov that this subject is worthy of

more detailed study and if each company could accept the assignment of some particular phase of the general problem and collect data covering it for one year and then submit these data to a group of engineers for compilation much good would be accomplished.

This suggestion seemed to have the approval of the meeting and it is hoped that something will come of it for the discussion developed that this is a very important problem and worthy of much detailed study but is too large for any one company to undertake alone, even if its operations actually covered the whole range of emulsions, which it is quite likely it would not do, so it is only by co-operation that real progress will be made.

California Practice

E. L. Decker of the Martin-Decker Corp., Long Beach, Calif., presented an illustrated paper on "Mud Treatment Plants in California" that was very interesting and shows what has been accomplished in that area in handling mud fluids in wholesale lots by commercial mixing plants as well as methods used in treating muds after they have left the wells.

The program was under the direction of a committee headed by W. K. Whiteford and made up of R. W. Bond, K. A. Covell, R. R. Hawkins, R. M. Carr, E. H. Griswold and D. L. Trax and everyone attending seemed well satisfied with the information obtained. Part of the money collected as registration fee is to be spent for printing and forwarding copies of the papers presented to the various field chapters of the American Petroleum Institute in Oklahoma and Kansas where it is intended to have further discussion of them by the field men who are actually handling these details in the various districts.

During the meeting there was another important conference going on under Dr. K. C. Heald, Harry H. Hill and E. DeGolyer who have been appointed by the directors of the American Petroleum Institute to act as an advisory board and make report to the research committee of the institute sometime in June on the recommendations of the Division of Production of research work that should be done on the occurrence and recovery of oil.

These sessions were held to secure an expression of opinion from the geologists, petroleum engineers and others interested in what would be the best course to pursue in this research work and permit Messrs. Heald, Hill and DeGolyer to formulate definite recommendations for the research committee to act upon and in turn submit to the board of directors in September.

It is planned to secure a considerable sum of money for further research work on problems in the petroleum industry but the amount to be assigned to the Division of Production is not at this time known or even estimated, although rumors have been heard to the effect that this appropriation had actually been made and ran all the way from $100,000 to $250,000, but this is not the case, and the committee is merely assemblying data at this time to submit a report from which the research committee can later secure information, together with similar reports from other committees representing the refining and marketing groups, and then make a recommendation to the board of directors covering the whole sum considered necessary for these projects.

TWO PICTURES OF THE PETROLEUM INDUSTRY

(Continued from Page 31)

of the future will require constant search and activity on the part of geologists and petroleum engineers.

Which of the Two?

Which of the two pictures is the one you gentlemen prefer and what are you contributing toward the maintenance of the gallery in which your favorite picture may be displayed?

It may be your idea that it is the sole duty of the executives to determine the policy of the company. May I suggest that the policy of the executive will usually be found in accord with the ideas of his organization.

Are you thinking of low cost based on volume output, or are you giving proper consideration to a condition which will result in remunerative prices?

The depths to which engineers now propose to drill, positively demand higher prices for petroleum products.

The present excessive production has been largely brought about through the use of additional funds secured through the sale of securities. The industry cannot continue indefinitely to secure new money and the public must learn sooner or later that such a policy is unsound. Bankers should begin to realize that a proper charge for depletion and depreciation should be ample to cover usual or necessary expansion and that, generally speaking, large sums of additional money expended by companies will result in a weakening of the present structure. It will certainly be admitted that no additional filling stations are needed to properly supply the public, and I believe it will be admitted that we do not need additional refineries. It is the duty of engineers in the industry to do everything they can to stop further expenditures in the directions suggested.

Not at Present Price

I believe it is the duty of the petroleum engineers to advise the executives that it is impossible to produce oil from 6,000 or 7,000 or 8,000 feet in depth at the present price for petroleum.

Very large wells are of course an exception, but large wells usually require the drilling of so many additional wells that the total cost of development will exceed the total recovery value on present crude prices.

It is predicted by competent engineers that the great Oklahoma City Field will not produce a sufficient volume on present prices to cover all expenditures. This statement may be questioned by those who are equally as well informed. It will, in any event, be admitted that the result will not be commensurate with the risks taken. Competitive conditions in the industry are responsible for the tremendous amount of unnecessary drilling now going on at Oklahoma City and in nearly every new field.

The voluntary co-operative curtailment movement is the factor which will decide which of the two pictures presented will be on view. The attitude of the rank and file in the field will contribute greatly to the success of the program.

The success of the conservation movement has exceeded the hopes of many in the industry. A recent editorial in a prominent financial journal of the East, in discussing the overproduction now prevailing in nearly all the industries, said: "Few industries have a potential overproduction equal to that of petroleum, and none has done a better job in bringing output into line with demand. Producers of other commodities may well study the intelligent stabilized methods today employed by the petroleum producers."

Consumption of gasoline is showing a healthy increase—in fact it is exceeding all estimates. There is great danger that producers will use the increased volume of sales as a basis for justifying an increased production of crude. Refiners have upset this theory by increasing the average yield of gasoline. Less crude is therefore required this year than was needed last year and the demand will probably remain stationary for two or more years.

The Federal Oil Conservation Board recently appointed an Economics Committee to study the situation and advise as to the requirements. You are familiar with the report. The Board of Directors of the Institute approved the report and recommended that the industry use it as the yardstick for regulating production.

Keep your slide rules busy, not alone in working out problems for developing greater production, but in keeping constantly in mind the necessity for maintaining a balance between production and consumption—it is the most vital problem before us. Engineering questions are more interesting, but today they are not so important as curtailment. The industry is indebted to the Federal Oil Conservation Board and to the commissions of the several states for the generous support they have given to the curtailment movement. The leaders in California are taking the lead in putting into effect a constructive program toward proper conservation.

Voluntary co-operation is the present need. Let us have it in larger doses than ever; and while this movement is temporarily saving the patient, spread the new doctrine of unit operation. After it has been adopted generally, our overproduction will be solved permanently.

WEIGHING OIL WELLS STILL IN ITS INFANCY

(Continued from Page 32)

accelerated by the motion of the crank, reaching a maximum when the crank is at 90 degrees from the top center, from which point, retardation takes place. The energy put into this acceleration is taken up in overcoming the inertia of the rods and fluid, and in additional stretch of the rods.

Between 90 degrees and 180 degrees (bottom center) of the crank position, the polished rod motion is retarded from a maximum to zero, which results in a release of load. Owing to the lag of impulse, however, and the contractile force of the rods, this release is actually felt at the polished rod when the crank has covered about 120 degrees or at about three-fourths of the way up the upstroke. From that point, to the top of the stroke, acceleration already imparted to the rods and fluid tends gradually to release the load on the polished rod. The force exerted by the contraction of the stretched rods tends to make this release far more gradual than it would otherwise have been.

As the polished rod starts its downstroke, the resultant force acting on it is the deadweight of the rods (in fluid), plus the contractile force of the rods, less the momentum of the rising mass (fluid plus part of the string of rods). When the momentum is dissipated and counteracted, the plunger starts down, the traveling valve opens and the weight of the fluid is transferred from the rods to the tubing. The rods fall freely, with the load on the beam hanger decreasing until retarded movement is set up in the last quarter of the crank circle. The same delays in impulse occur as is in the upstroke, so that the minimum load is obtained at a crank position of 300 degrees from top center. From this point on, the load on the polished rod picks up to the point reached at the beginning of the upstroke. For the condition to be ideal, the speed should be so adjusted to the length of stroke that the resulting curve should be smooth, without sharp corners, reversals or sudden pick up. In this analysis, no account has been taken of rod friction.

Mathematical Deductions

Where one is dealing with a straight hole, and new rods and tubing of which the sectional areas and moduli of elasticity are known, it is possible to calculate the effective length of stroke of the plunger with some degree of accuracy. In crooked holes, however, where excessive rod friction occurs, or where using old, worn out material, such calculations are questionable. Even in such cases, figures of comparative value in the same well are often obtainable.

The stretch of the sucker-rods can be calculated with a fair degree of accuracy. This can serve as an aid in spacing the pump correctly, and together with the loads from which it was determined, will show the proper size of rods to use.

A most important field for the dynamometer is in the data which it furnishes on the mechanical operation of surface equipment. The horsepower delivered at the polished rod can be determined by a simple formula. Taking the mean height of the card (best determined by the aid of a planimeter), as the mean effective force throughout the cycle (f), we have:

$$HP = \frac{f\ l\ n}{396{,}000}$$

Where "f" is in pounds, "l" is length of stroke in inches, and "n" is the number of strokes per minute.

This figure serves as a basis for the overall mechanical efficiency (where input power to the prime mover can be indicated), it shows the size engine or motor required, and the power transmitted by belts, etc.

The loads themselves also show the tension on the belts at every point in the cycle.

Correct counterbalancing can also be approximated from the results of the dynamometer tests. The mean load through the cycle is obtained as follows:

Find the mean load throughout the upstroke by dividing the upstroke area by the length of the card, and translate to pounds, according to scale. Similarly find the mean load for the downstroke. The average of the two gives a theoretical counterbalance weight. This figure, however, is applicable only to a deadweight balance. Even there it will be found too high. The momentum of all rotating parts, from the bandwheel to the engine flywheels, acts as an effective counterbalance, and this effect must be subtracted from the weight first determined. Even then, from the very shape of the card, it is seen that the well will be seriously overbalanced at points in the cycle, and underbalanced in other points. A rotary balance is far more ideal, in that it is more nearly possible to adjust it to exert the maximum effect at the proper points on the stroke. In making any computation for rotary balance, the radius of gyration as well as the mass of the counterbalance must be known. Its effect can then be determined for different speeds. Once an approximation of the weight of the counter balance is obtained, final adjustments can best be made by experiment.

Results Obtained From Adjustment

Using the dynamometer as an auxiliary instrument, or tool, it is very difficult to cite any specific instance of increased production or avoidance of down time due to the results of such tests alone. In some cases, production has been increased from 5 to 10 per cent by determining safe increase of stroke and speed, and down time has been reduced by adjusting the speed so as to be easier on equipment, and still maintain production. But by far, the greatest benefit derived from dynamometer tests so far, has been in pointing out the bad effects of inadequate equipment, and in assisting in replacing it with new equipment far better suited to the requirements of the problem.

In conclusion, it must be brought out that weighing wells is still in its infancy. Already, most of the major companies have found it worth while to undertake this sort of work, but considerable research must still be done before anyone can realize the fullest advantage possible with this instrument. In this connection, it would be an admirable achievement if the engineers of all companies interested in any field, could meet informally from time to time for the purpose of comparing data, and discussing their problems and results. In closing, however, I must repeat that the dynamometer is a very useful, in fact, invaluable aid to the engineer, but not itself a panacea for the pumping problem. Handled intelligently, it points the way to a rapid solution of many difficult problems, but, in all cases, the results depend solely on the man who is using it.

ELK HILLS LITIGATION

WASHINGTON, D. C., May 24. — A $40,000 appropriation by Congress to continue litigation in connection with the Elk Hills naval oil reserve in California has been asked in communication transmitted from the President to the House of Representatives.

The appropriation is asked to provide compensation and expenses for W. C. Morrow and J. C. Scallon, special counsel appointed by the President to investigate the leases.

The proceedings were first authorized in 1924, and relate to two sections of the reserve in which leases are held by the Standard Oil Co. of California and the Pan American Petroleum Co.

SUMMARIZE RESULTS OF RESEARCH WORK

(Continued from Page 33)

expression from the California representatives regarding the probable effect there, of changing the present specifications. Mr. Robinson of The Texas Company of California replied that his comments were to be taken as simply expressing his personal views and not those of the California manufacturers nor his company but that the proposed specifications, in their present form would not be acceptable in California. He agreed that the intention of the changes is a step in the right direction but that he objects to the method used in arriving at an arbitrary volatility factor. He further stated that if the refiner is given the A.S.T.M. distillation and the vapor pressure on the natural gasoline he contemplates buying, he has all he needs to determine whether it is suitable for his needs and is able to rather accurately judge the characteristics of the finished blend. He summarized the refiner's desires by stating the refiner sought a natural gasoline which has a comparatively low vapor pressure and a high percentage off at 100° F. and 140° F.

S. S. Smith, head of the Mid-Continent plants for the Shell Petroleum Corp., then repeated a comment previously made by Mr. High to the effect that at the Houston refinery of which Mr. High is superintendent that he was making gasoline by distillation having a Reid vapor pressure of 16 pounds. Mr. Smith showed by this statement that the gasoline industry is now expected to compete with a "synthetic" natural gasoline that the refiner manufactures in his own plant. With it established as a competitor, Mr. Smith said it will be necessary for the natural gasoline industry to produce a product with superior blending properties. He said the future effort of manufacturers must be toward reducing the vapor pressure of their product without reducing its effective volatility. He further stated that all well rectified gasoline will have similar characteristics and complete rectification will be essential in bringing about a closer uniformity of quality and once this is established, the poorly fractionated gasoline will have to be sold as off-specification material and at a reduced price.

Seeks Uniformity

Dr. G. W. Gray, chief chemist for The Texas Company, again reflected the viewpoint of the refiner when he said it was necessary to work toward a closer uniformity of quality. He cited instances where the recovery on cars of natural gasoline received into The Texas Company's plants during the past year ranged from 97 per cent to 81 per cent and yet all of this gasoline was given the same classification. He also warned the natural gasoline manufacturer against ignoring the importance of a low vapor pressure and a high recovery on his products because of the likelihood of the Government adopting some regulatory specification on U. S. Motor gasoline in the near future. He suggested the natural gasoline manufacturer hold the vapor pressure within a maximum of 14 pounds Reid and said it was no secret that the Government was considering adopting a maximum of 10 pounds Reid vapor pressure on U. S. Motor gasoline. Doctor Gray also spoke unfavorably toward the adoption of the newly proposed specifications on natural gasoline.

R. E. Baker of the Shell Petroleum Corp. then asked that it be kept in mind that the specifications committee fully recognizes its inability to secure the approval of the association on the original method of arriving at a volatility factor and that a new and improved method is in the making and will be presented for consideration later.

Dr. G. G. Brown tried to simplify the discussion by pointing out that the refiner favored specifications dealing with the A.S.T.M. distillation and the vapor pressure of the natural gasoline. With these, he said, he could judge pretty closely what to expect when the natural blended with his own production. Apparently this agreed with the viewpoint of the refiners present for this statement was applauded.

Dick Alden returned to review Doctor Gray's remarks with respect to the Government adopting a 10-pound Reid vapor pressure as the maximum on U. S. Motor gasoline. He closed his comments by saying, "a U. S. Motor gasoline having a 10-pound vapor pressure in winter is an oddity these days."

The discussion then turned to the question of whether the refiner should be permitted to vent the natural gasoline cars into his recovery system before gauging the cars for outage claims. Emby Kaye, general superintendent of the Skelly Oil Co.'s plants, contended that if the material received at the refiner's rack met the specifications under which it was purchased, he should pay for the contents of the car.

Mr. High was asked to express his attitude on this subject, to learn the refiner's viewpoint. He reminded the manufacturers that the present contracts provide that the gasoline be gauged and unloaded at one atmosphere of pressure at the unloading temperature. With this in mind he said the problem then resolved itself into determining whether the refiner vent the car through his recovery system or let the vapors escape into the air. Obviously it would not be safe to openly vent 10 to 50 cars of natural gasoline in the refinery yard daily as would be necessary in many of the larger plants. Mr. High contended that where the refiner invested in a vapor recovery system and was given a contract which specified the conditions under which the car was to be gauged and unloaded it seemed only reasonable that he be permitted to run the vapors through a recovery system. Mr. High said also that, regardless of how the specifications may be changed in the future, the refiner would expect to purchase his requirements of natural gasoline on the same or an equivalent basis.

Leaving the problem of satisfying the refiner the discussion turned to a common problem among natural gasoline manufacturers and refiners, that of supplying a satisfactory aviation fuel.

Discuss Blending Values

A paper delivered by R. C. Alden and prepared by him and Billy Parker of the Phillips Petroleum Co. outlined the factors which were most important in choosing an aviation fuel. Following this paper, F. C. LeFevre of the Empire Oil & Refining Co. outlined some test results on five aviation fuels used in actual flights. Without attempting to correlate the data or draw comparisons, the following data were submitted.

The five types of fuels which are herewith reported are:

1. U. S. Motor fuel.
2. Aviation, U. S. domestic grade.
3. Aviation, U. S. fighting grade.
4. Natural aviation.
5. A blend of natural aviation and Grade "BB" natural gasoline.

TABLE 1—GENERAL CHARACTERISTICS

Type of fuel	5% Condensed	10% Distilled	Vapor pressure Reid at 100° F.	% Distilled at 212° F.
1	140	156	6.5	28.5
2	141	148	5.0	47.5
3	144	148	4.0	69.0
4	104	107	9.9	93.0
5	100	104	15.0	93.0

TABLE 2—FUEL CONSUMPTION

Type of fuel	Carburetor rich minutes of flight Per pound of fuel	Per gallon of fuel	Carburetor adjusted minutes of flight Per pound of fuel	Per gallon of fuel
1	.385	2.41	.430	2.70
2	.395	2.35	.455	2.72
3	.383	2.30	.487	2.89
4	.398	2.24	.482	2.72
5	.395	2.24	.485	2.75

Power

Mr. Le Fevre said: "Our tests under flight conditions indicate that for the aviation fuels listed, there is no decrease or increase in power through the range of volatilities tested. The motor fuel, because of its heavy detonation, would not permit open throttle, consequently full power could not be developed and determined.

"All the fuels had a tendency to detonate on the take-off, and to a lesser extent when the engine was operated at maximum speed in flight. The degree of detonation, however, was less with the natural blend, Fuel No. 5.

Vapor Lock

"Fuel No. 5, which is only one of a series of high vapor pressure gasolines, was prepared primarily for the study of vapor-locking tendencies of aviation fuels. With this fuel of 15 pounds vapor pressure, the plane was flown and handled in every manner conceivable conducive to vapor lock of the fuel system. However, no indications of vapor lock were evidenced even though the test flight carried the plane to an altitude of 18,500 feet above sea level."

The three days of the meeting were filled with constructive criticisms and new ideas and again characterized the progressive program layed out by the association several years ago. The accomplishments and aims of the association and the results of Doctor Brown's work were best covered by D. E. Buchanan earlier in the meeting when he discussed the effect of this work from a marketing standpoint. Mr. Buchanan said:

"At the time the association was organized almost no one had a good word for natural gasoline. Even those of us who were trying to sell it knew only a few good words about it and were haif afraid to make a stand on those. When viewed in the light of today's product, the 'casinghead' of 1920 probably didn't deserve a good word. To say nothing about benefits which have accrued to the manufacturing department, the association work has gradually brought about improvements in the product and specifications which with each succeeding change have been more of an index to the buyer of the product he could expect thereunder. It has also gradually developed a spirit of confidence and co-operation among manufacturers which has helped the marketing end of the business materially. Our research program which is now drawing to a close has been one of the outstanding examples, at least in the petroleum industry, of an association building good will and widening the market for its product through research into the further utilization of that product."

NATURAL GASOLINE AS AVIATION FUEL

(Continued from Page 40)

vanced by the Army Air Corps, covering the material known as gasoline, aviation fighting, antiknock grade. The Engler distillation requirements are shown in Table 1. Compared with F.A.G., the only difference is that the 5 per cent condensed temperature requirement of 122° to 149° F. has been changed to a 10 per cent evaporated temperature requirement of 144° to 162° F.

Other provisions of the Army specifications are an exceptionally high antiknock rating (6 cc. of tetraethyl lead may be added), an accelerated aging gum test, a freezing test, and that the material must be refined from crude petroleum. It is obvious that only exceptional raw materials can meet these requirements. It is further apparent that the exceptionally low front end volatility practically excludes aviation natural gasoline from this field.

Phillips Survey

During the past five months, a survey of commercial aviation gasolines has been made by the research department of the Phillips Petroleum Co. Although the survey is barely under way, it is possible the results so far obtained will be of some interest. Table 2 is a summary of the important characteristics of the samples so far examined. The characteristics listed are:

Engler 5 per cent condensed temperature (°F.).

Engler 10 per cent evaporated temperature (°F.).

Reid vapor pressure at 100° F. (pounds per square inch absolute).

Engler per cent evaporated at 212° F.

Antiknock rating (per cent of aniline

TABLE 2—TEST RESULTS OF A FIVE MONTHS' SURVEY OF AVIATION GASOLINES

Aviation naturals—	5% cond.	10% evap.	Reid V.P.	Per cent evap. at 212° F.	Aniline knock rating
1005 January	137	141	6.7	88.0	4.7
1005 March	137	140	6.45	85.0	4.2
1006 January	106	109	11.8	86.6	5.9
1006 March	118	122	8.85	78.0	5.1
1069 February	115	120	8.85	80.4	4.8
1069 March	120	123	8.65	79.5	4.7
1069 April	119	123	8.2	78.4	4.1
Other aviation gasolines—					
992 January	125	130	8.5	92.0	5.1
992 Januahy	125	130	8.5	92.0	5.1
992 January	151	160	5.4	46.6	4.3
992 February	116	123	9.95	79.0	5.0
992 March	116	121	10.4	83.5	4.7
992 April	126	131	7.7	82.8	4.7
992 April	156	166	4.5	41.0	3.8
994 December	141	145	6.25	85.3	4.6
994 February	140	144	5.6	85.0	5.0
994 April	136	142	6.4	85.5	4.3
997 December	138	145	6 8	77.4	5.2
997 March	139	148	5.9	64.0	4.6
1001 December	144	150	5.4	62.6	3.5
1001 February	126	134	6.9	70.5	3.5
1001 March	117	124	8.65	75.7	4.6
1014 January	126	134	8.95	60.0	6.3
1014 March	126	134	7.55	61 3	6.5
993 December	134	146	8.5	50.6	6.4
993 February	142	156	6.95	47.7	6.3
993 February	142	151	8.0	48.0	6.7
993 March	140	151	6.95	49.0	6.5
993 April	156	167	4.95	44.4	6 2
995 December	159	171	5.2	44.6	6.3
995 February	158	168	4.95	47.0	6.3
995 April	160	172	4.9	43.0	6.5
996 December	140	146	6.8	84.9	5.7
996 February	133	139	7.9	73.0	4.7
996 April	138	146	6 8	86.4	5.5
998 December	122	130	8.85	65.3	5.5
998 January	111	116	10.9	78.3	6.1
998 February	122	128	8.8	76.0	7.2
998 February	122	128	8.35	75.0	7.2
998 March	126	133	7.7	69.3	6.9
998 March	123	129	8.0	75.0	7 3
998 April	137	143	6.15	76.0	7.0
998 April	121	129	8.4	77.0	6.8
999 December	140	151	6.2	50.0	8 7
999 April	140	148	5.9	51.4	9.0
1000 December	123	136	7.9	35.3	5.3
1000 March	124	137	7.9	33.5	5.0
1002 December	139	149	7.15	46.6	3.5
1002 January	132	141	8.3	42 0	4.0
1002 January	140	150	6.75	46.0	4.3
1002 January	141	152	6.95	44.0	3.7
1002 February	137	147	7.6	47.0	4.0
1002 March	137	145	5.95	46.3	3.6
1002 April	140	151	6 3	44.4	3.9
1003 December	127	135	8.35	78.0	3.7
1003 February	144	151	5.9	71.0	4.1
1003 April	130	138	8.05	74.3	4.2
1004 January	130	140	8.05	54.0	3.9
1004 April	138	150	5.9	35.2	3.2
1011 January	121	124	10.4	40.0	6.4
1011 April	122	130	8.0	58.2	3.0
1013 January	134	143	8.05	44.6	3.2
1066 February	160	170	4.05	40.0	2.3
1067 February	134	142	6.55	61.0	3.6

required to bring reference fuel to equality with sample. The reference fuel requires 7.3 per cent of aniline to bring it to the ethyl standard).

In Table 2, the aviation natural gasolines are shown separately. It is to be noted that only a few of this class of aviation gasolines has been included in the survey and that these few samples cannot be said to be typical of the usual aviation naturals.

An outstanding feature of Table 2 is the fact that many of the aviation gasolines other than aviation natural are at present being marketed with unusually high percentages evaporated at 212° F. This would indicate that these marketers realize the value of the high effective volatility hitherto obtainable only in aviation natural gasoline.

In this connection it is believed that this practice can be considered only in the light of an experiment on the part of these marketers, in as much as it is extremely doubtful whether products with high percentages evaporated at 212° F. are economic from a refining viewpoint. It is believed that natural gasoline possesses a fundamental economic advantage in regard to this characteristic.

Another feature of Table 2 is that 7 of the 55 samples of refinery aviation gasolines infringed the present specification of not more than 5 per cent condensed at an Engler distillation temperature of 122° F.

Figures 2, 3 and 4 have set forth graphically the conclusions possible from a study of the data of Table 2 in respect to the front end volatility of aviation gasolines.

As has been previously stated the most important problem confronting the marketers of aviation natural gasoline is the rationalization of official specifications. Once this problem has been disposed of, the natural gasoline industry will be in a position to capitalize on the innate advantages possessed by aviation natural gasoline.

The most important advantage of aviation natural gasoline when made to given front end volatility specification is its uniformity, regardless of course, producer or marketer. This uniformity applies most particularly to volatility characteristics but also within rather narrow limits to the antiknock ratings. This uniformity of the product can be utilized to good advantage by the natural gasoline industry as a whole. In the not-too-far future it may be possible to standardize on antiknock requirements, so that aviation natural gasoline wherever purchased or from whom will provide constant performance and thus assure pilots of eliminating one variable from their many problems.

MORE GASOLINE BEING BOUGHT IN OKLAHOMA

(Continued from Page 30)

dle western states. This jobber buys on contract.

Many of the trade feel that a special effort to depress prices has been made by certain buyers who are anxious to purchase cheap material for delivery over June. One of the main factors in May slump in prices was the speculative purchases made late in April and early May. Many of the brokers and jobbers who made these purchases in expectation of higher prices failed to order out shipments when the market started to slump, resulting in confusion which contributed materially to the quantity of distress material thrown on the market.

Gasoline and Naphtha

Although sales of U. S. Motor gasoline were reported under 6½ cents, so far as known little business was placed with Oklahoma refiners on that basis and on Tuesday spot sales were being made over a price range of 6½ to 7 cents with a few refiners quoting from 7 to 7½ cents. The Decoration Day holiday, Friday, which will extend over the week-end for many car owners, is expected to give the oil industry its first large gasoline consumption of the year. If it materializes it will aid in reducing stocks of jobbers which are heavy and should result in more orders with refiners starting June 1.

In regard to gasoline the sale of special grades becomes more and more important. Many refiners sell through their own stations and to contract jobbers a grade which is substantially better than the regular U. S. Motor grade but does not meet all the requirements for the 60-62 400 endpoint grade.

These special grades usually have an initial under 100° F. with lower boiling points than the U. S. Motor requirement extending over the entire distillation range and ending with an endpoint of from 410 to 425. These grades so far as motor performance is concerned have all the characteristics of the 400 endpoint grade and for that reason should be classed as premium products. Guarantees as to antiknock rating are also often made with these grades, the seller in some cases being able to secure premiums over the U. S. Motor grades where the rating is exceptionally high. Guarantees of 30 to 35 per cent benzol equivalent, however, are often made in sales without premium prices.

This situation has made the gasoline market somewhat specialized as to grades and prices with the lowest priced material generally coming from plants which have made no effort to secure specifications in their products which will make them specially attractive to buyers.

The low of the domestic market on 390 and 375 endpoint gasolines is now in line with the export prices of 7 and 7¼ cents basis North Texas. A few refiners are quoting one-half to three-fourths cent above these prices. The lower natural gasoline prices has been reflected in quotations for 350 and 360 endpoint material which are one-fourth cent lower than last week.

The naphtha movement is dull. The 450 endpoint grade was quoted last week at 6½ to 7¼ cents.

Kerosene

The only change in the kerosene situation was a lowering of the price on the 41-43 water white grade one-eighth cent. This concession came from a few Oklahoma refiners who were forced to meet outside competition coming largely from North Texas refiners. The latter group of refiners has not had the relief expected from export sources and has been offering kerosene on a Group 3 basis throughout the Middle West as low as 3¾ cents.

Some sales of the same grade were made in Oklahoma at 3⅞ cents with a majority of the sales at 4 to 4¼ cents. The 42-44 grade was selling at 4¼ to 4¾ cents. The demand for all grades was routine.

Distillate

Activity in the distillate market is confined to a few scattered spot sales and the discussion of contracts for next season. The low of the market for specification material in Oklahoma is 2¾ cents although lower prices are reported in other areas. Contracts are said to have been closed for 38-40 straw distillate of low flash based on published quotations with a low of 3 cents and a high of 4 cents. For lower gravity material both the minimum and maximum are lower.

Fuel Oil and Gas Oil

The low priced condition in regard to fuel oil and gas oil has not improved. The situation of the sellers in Oklahoma, however, appears to be better than it was earlier in the month. The increased demand for cracking stock has limited the spot offerings to low gravity grades and the bulk of these grades are moving on contracts.

Natural Gasoline

The demand for natural gasolines continues dull and prices are fractionally lower on all grades. Unless the refinery market improves it is feared that June will open with prices still lower than they are at present.

Sellers have found that they cannot maintain a healthy movement of naturals except when the plant prices are approximately 1 cent lower than the refinery prices for the U. S. Motor grade. When the 6½-cent price for naturals was established earlier in the month it was assumed that a 7½-cent quotation for U. S. Motor gasoline would be generally accepted before the end of the month.

The slump in the refinery prices to below 7 cents has reduced the buying of naturals from several important sources. Grade A was fairly firm at 6⅜ to 6½ cents the first of the week. Other quotations were 6⅛ to 6¼ cents for Grade AA and 6 cents for the remaining grades except Grade C at 5¾ to 6 cents.

Lubricants and Wax

Although the low of the quotation for Mid-Continent steam refined stocks has been 8 cents, substantial sales have been made under that quotation. Most of these sales are on contracts, very little spot trading being reported. Quotations on bright stocks, which are largely nominal so far as spot sales are concerned, are unchanged. Neutral oils continue firm except for the nonviscous grades, which are quoted over a wide range. If any change in wax prices is to be noted the quotations are lower. Export buyers are offering around 2 cents for Oklahoma crude scale grades on shipments over the next few months.

ANALYZE GASES WASTED DUE TO OUTAGE LOSS

(Continued from Page 131)

todian of the consignor's product and the latter relies upon the integrity of the former. Due care should be exercised by the consignee. He should avoid accumulations of loads during hot weather and should promptly unload cars received. In the event he is not equipped to weigh the loads, or use a U-gauge to ascertain the amount of gasoline in the car, or if the cars themselves are not equipped for gauging with one device or another, each car should be vented slowly, if necessary, to remove the dome cover, in order not to cause "boiling" within the cars as a result of suddenly reduced pressure. As soon as the cover may be removed, this should be done, a gauge taken and recorded, the bottom outlet valve opened if the control therefor is inside the car, and the cover immediately replaced. Every man at the loading rack must know that he is handling a material whose boiling point is, during the greater part of the year, lower than atmospheric temperature, and that, as the dome cover is removed or the vent opened and the pressure released, heavy losses are bound to occur.

Analysis of Vapors

Samples of vapors released from tank cars in this manner have been studied. From "AA" gasoline we found, by fundamental analysis, the following vapors in terms of G.P.M.:

Compound—	Gallons per cubic feet
Propane	.87
Isobutane	1.75
N-butane	17.12
Pentane and heavier	7.62

These vapors are not materially dissimilar from the vapors leaving a car during the process of loading, where we found vapors of which these are representative:

Compound—	Gas volume (%)	G.P.M.
Air	7	
Ethane	1.4	
Propane	18	4.87
Butanes	60.9	20.30
Pentane	10.9	4.03
Hexane plus		.72
Heavier	1.8	

In both cases, then, you see that the vapors, which issue from the tank car, are practically wholly valuable gasoline vapors, showing some 25 gallons of butane and heavier in every thousand cubic feet. While the propane may appear excessive in the loading vapors, you must appreciate the fact that the very small fraction of propane in perfectly stabilized gasoline will be released most readily when the gasoline enters the car under low pressure. As against the whole volume of vapors it is negligible. The fact remains that all of the vapors come from a merchantable grade of gasoline and the vapors in themselves are, by this examination, shown to be "gasoline" of themselves. They should, therefore, be saved, and accounted for.

SINCLAIR CONFIDENT OF PRAIRIE MERGER

(Continued from Page 139)

er expenses, of $3,089,355. In an analysis of surplus, provision was made for $172,865 for Federal and State taxes, leaving net before depletion of $2,916,489, compared with $2,899,025 in 1928. During the year the company disposed of a part of its interest in crude oil carried in storage for a cash consideration of $1,298,270, and for the remainder, amounting to 1,868,581 bbls., the company is to receive field price, plus approximately 23 cents per barrel for tankage and pipe line service. In the analysis of surplus there is deducted $478,924 for loss on crude storage. The amount of adjusted taxes for years 1919 to 1928 inclusive, has been practically determined and a reserve of $800,000 was set up to take care of same. There was also an adjustment for prior years on depletion cost and realization of appreciation for which there was set up $2,592,861. Dividends paid during the year were $2,926,027. The surplus on December 31, 1928, was $12,916,489. After adding income for 1929, deducting dividend payments, the tax reserve, the amount of depletion adjustments and the loss on crude oil storage, there was a surplus on December 31, 1929, of $8,405,421.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

Sept. 28	58.63	Jan. 22	47.13
Oct. 5	57.00	Jan. 29	47.46
Oct. 12	59.75	Feb. 5	48.13
Oct. 19	58.70	Feb. 12	47.49
Oct. 26	54.59	Feb. 19	45.85
Oct. 31	42.29	Feb. 26	46.71
Nov. 8	48.31	Mar. 5	46.79
Nov. 15	47.61	Mar. 12	48.30
Nov. 22	47.76	Mar. 19	51.00
Nov. 29	48.60	Mar. 26	51.55
Dec. 4	50.60	Apr. 2	53.26
Dec. 11	50.51	Apr. 9	52.04
Dec. 18	49.24	Apr. 16	53.39
Dec. 24	47.36	Apr. 23	53.70
Dec. 31	48.86	Apr. 30	50.23
Jan. 8	48.56	May 7	51.67
Jan. 15	47.13	May 14	49.71

Late Fields

(Continued from Page 42)

tion for No. 1 Johnson, SE cor. NW NE Section 30-8-8. The discovery well caused considerable excitement and has attracted attention to the old Wewoka district.

The second producing well in the new Wanette-Asher area was completed by the Wilcox Oil & Gas Co. in the NW cor. SW Section 23-6-3, southern Pottawatomie County, making 1,100 bbls. the first 16 hours. The oil was found in the Wanette sand at 3,512-17 feet, testing 44° gravity, corrected. The discovery well in the district, Payne Drilling Co. and others' No. 1 Bullock, SE cor. NE Section 22-6-3, made 939 bbls. on the gauge of May 27.

Lippa Drilling Co. and Tidal Oil Co.'s No. 1 Billington, NE cor. SE NW, Section 19-9-5, southwest of the townsite of Earlsboro, and a mile from the nearest production, made 535 bbls. in 14 hours from the Hunton lime at a total depth of 4,091 feet.

The producing area was extended a mile west in the Oklahoma City Pool, when the Hall & Briscoe's No. 1 Holmes, NE cor. SW SE, Section 10-11-3w, made 8,511 bbls. the first 12 hours. The well is located on the edge of the Oklahoma City limits. The oil was found in sand at 6,340-80 feet and drilled to a total depth of 6,419 feet. The gas volume was estimated at 15,000,000 feet.

J. F. Cuniff and Pandem Oil Co.'s No. 1 St. Joseph Orphanage, SW cor. NE SW SE, Section 17-12-4w, a wildcat in Oklahoma County, was bailing the hole down 1,200 feet from the top, the total depth being 6,090 feet. Nothing was showing on the last reports.

Skelly Oil Co.'s No. 7 Hoopes, SE cor. NE NE, Section 31-11-2w, was completed making 3,120 bbls. in 19 hours. Production was found in sand at 6,344-56 feet, total depth being 6,456 feet. Gas was estimated at 10,000,000 feet.

44 WELLS IN THE VAN FIELD ARE PINCHED TO 38,000 BBLS. A DAY

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., May 26.—Drilling in the Van Field, Van Zandt County, East Central Texas, is progressing at a feverish pace, with many locations being made each week, and rigs moving in to begin shoving the bits down toward the Woodbine sand, which is the producing formation of that field. To date there are 44 completed wells in the field, yielding around 38,000 bbls. per day from the choked in wells, the bulk of the production running into steel storage on the Pure Oil Co.'s tank farm just west of the field, while the short 10-inch line to Chandler caries a small proportion of the output to a loading rack at that place, where it is loaded out to the Houston Oil Co.'s refinery at Camden, Ark., and the Louisiana Oil & Refining Co.'s refinery at Shreveport, and a small amount going to the Pure Oil Co.'s refinery at Smith's Bluff, Tex., which will soon receive a large increase in runs when the company completes its 10-inch line from Chandler to the refinery and loading docks on the Gulf Coast near Smiths Bluff.

Overlooked Strips Give Trouble

While production activities are going forward in the pool, independents are also busy ferreting out possible overlooked strips, and the Oil and Gas Division of the Railroad Commission of the State reports that many notices are coming to them in regard to such strips, which are showing up because of old landmarks having been destroyed or moved, thereby causing much trouble in surveying records, and causing trouble in new surveys of acreage which is covered by titles granted to land poorly designated and incorrectly staked in the original surveys. A tree which might have once designated a corner of a plat of land might have been long since blown down or chopped down, and a stone which marked another corner could easily have been covered by eroding soil or moved off, thereby obliterating essential monuments defining boundaries of farms, and consequently causing trouble in later surveys and paving the way for trouble when the land was leased.

Several strips in the field have already caused considerable trouble, the owners receiving unheard of prices for the land from the companies operating under the unit plan in order to remove possible difficulties which might occur to those operating in the field, but it seems that a remady for the excess strip, or vacancy strip, ills has not yet been found. Practically every field or area now producing in the State has had or will have its share of such trouble, and the Van Field is not out of the ordinary, the size of the farms no doubt causing more trouble. The area is cut up into small plats, and extreme diligence has to be taken in title work, much more difficult work than called for in West Texas, where ranches are large and there are less chances for excess or vacancy strips to occur.

Three Wildcat Failures

Nothing of especial interest took place in the East Central Texas district during the week, except for three more wildcat failures in various parts of the district. The Adair and Daniel No. 1 Painter test in the David Wilson Survey in Smith County was a former interesting test which failed to produce. It topped the Pecan Gap at 2,857 feet, went out of it at 3,000 feet and was marked up as a "duster" at a total depth of 3,557 feet.

Freestone County recorded another disappointment in C. F. Lytle's No. 1 fee. It was abandoned at a total depth of 4,941 feet, removing another area in the county from possibilities of production. There are still a few areas which have been blocked in that county which will no doubt get tests later on, but at the present time any more tests are rather doubtful. Shell Petroleum Corp.'s block near Turlington will probably be one of the areas to receive a test at a future date, but nothing has been announced as to the intentions of testing this area.

Cranfill & Reynolds' No. 1 Alexander was abandoned at a total depth of 3,490 feet after logging Pecan Gap chalk from 2,690-2,812 feet. This adds to the ever growing list of dry holes in Van Zandt County, which has been drilled rather extensively in the hope of picking up production in the Woodbine sand, and thereby opening up a "second" Van Pool.

Boggy Creek	3,630
Cedar Creek	45
Currie	355
Mexia	4,314
Minerva	585
Nigger Creek	210
Powell	5,807
Richland	240
Thrall	42
Van	22,484
Wortham	845
Total East Central Texas	38,557
Week ending May 17	40,424
Decrease	1,867

EAST CENTRAL TEXAS COMPLETIONS

Freestone County

C. F. Lytle's No. 1 fee, total depth 4,941 feet; dry and abandoned.

Panola County

Natural Gas Production Co.'s No. 1 M. Roquemore, initial production 10,000,000 feet of gas and 2,180 bbls. oil; total depth 4,645 feet.

Smith County

Adair & Daniels' No. 1 A. J. Painter, total depth 3,557 feet; base of Pecan Gap 3,000 feet; dry and abandoned.

Van Zandt County

Cranfill & Reynolds' No. 1 C. M. Alexander, top Pecan Gap 2,690-2,812 feet; total depth 3,490 feet; dry and abandoned. Pure Oil Co.'s No. 1 Leonard, initial production 250 bbls. first 13 hours; total depth 2,940 feet.

EAST CENTRAL TEXAS WILDCATS

Week Ended May 26

ANDERSON COUNTY

Navarro, Sun and Humble's No. 1 Gardner, 1,150 ft. from N and 150 ft. from E of 147.5-acre tract in M. M. Salizar Sur. ..... Drlg. 1,070 ft.
Sun Oil Co.'s No. 2 Bowers & Maier, 150 ft. from S and 140 ft. N of SW, 1,450 ft. SW of SE lines of tract ..... Spud, T. D. 60 ft.

FREESTONE COUNTY

Killam & Phillips' No. 1 Killam, 150 ft. from N and 1,310 ft. E of 272½-ac. tract, A. Sanchez Sur. ..... Drlg. 3,110 ft.

HENDERSON COUNTY

H. B. Ashburn et al's No. 1 T. E. Barry, center of Barry's 59-acre tract in A. York Sur. ..... S. D. 2,234 ft.
Chapman's No. 1 Cade, 1,662 ft. from N and 3,294 ft. from W of J. B. Dorsey Sur. ..... S. D. 3,100 ft.
Cranfill & Germany's No. 1 Stow, 2,582 ft. E, 785 ft. S. Guadalupe Acosta Sur. ..... Location.
George Pace et al's No. 1 Mrs. Sarah Anthony, 273 ft. N and 132 ft. W of SE cor. of S. Anthony 632-ac. tract, Jose W. Battvan Sur. ..... Derrick.
Shell's No. 1 Stephens, 760 ft. from S, 330 ft. from E lines I. D. Owens Sur., S. T. Stephens 118-ac. tract ..... Coring 3,836 ft.

HUNT COUNTY

Branson et al's No. 1 West, 350 ft N, 350 ft. W of W 60-ac. tract, Jas. Rooces Sur. ..... Derrick.

KAUFMAN COUNTY

Sowell et al's No. 1 Ables, 1,200 ft. from SE, 1,000 ft. from SW of Ables' 233-acre tract, Elizabeth Ables Sur. ..... Drlg. 478 ft.

RAINS COUNTY

Everett & Morrison's No. 1 Franklin, 640 ft. from S and E of 75-acre tract in John Christian Sur., 6 miles SE of Emory ..... Rebuilding derrick.
Owens & Sloan's No. 1 Hill, 150 ft. out of NW cor. of 150-ac. tract, T. McMahon Sur. ..... Drlg. 2,400 ft.; top Pecan Gap, 2,348 ft.

RUSK COUNTY

Mass et al's No. 1 Mathews, 2,244 ft. from N, 4,356 ft. from E, Dalines Cartinas Sur. ..... Derrick.

SMITH COUNTY

Owen Sloan Oil Co.'s No. 1 Starnes, 846 ft. along W lines of John Waller Sur. from NE cor. of J. O. Dillard Sur. and 80 ft. E at right angles to W line of J. Waller Sur. ..... S. D. 1,322 ft.
Sutton et al's No. 1 W. D. Hammond, 150 ft. out of SW cor. W. D. Hammond tract in Jas. Reed Sur. ..... S. D. 3,642 ft.
Winona O. & G. Co.'s No. 1 Freeman, 150 ft. from S, W of 89-ac. tract in A. J. Lagrone Sur., 4 miles SE of Winona ..... Derrick.

VAN ZANDT COUNTY

L. R. Barton's No. 1 Wamble, 300 ft. from S and W of 100-ac. tract in Pleasant Young Sur. ..... Derrick.
Chapman et al's No. 1 Clarke, 150 ft. from N and W of 76-ac. tract, John Walling Sur. ..... Derrick.
Craft & Kelsey's No. 1 Euas, John Prade Sur., 150 ft. from E and 71 ft. at right angles to intersection of Sam Allen tract, north farm. ..... Rigging up.
Cranfield & Reynolds No. 2 D. S. Coker, 100 ft. NE of No. 1 Wm. Daniel Sur. ..... Drlg. 630 ft.
T. Daniels' No. 1 Fannie Cumbine, 185 ft. S and 175 ft. E of NW cor. 156-acre tract John Wright Sur. ..... S. D. 2,275 ft., repairs.
Dennis Oil Co.'s No. 1 C. W. Morris, 100 ft. from N and 300 ft. from E lines of Morris 160-acre tract in C. L. Morris Sur., 5 miles SE of Ben Wheeler. ..... Drlg. 2,820 ft.
Grand Saline Oil Co.'s No. 1 Carns, 200 ft. from S and W of most westerly SW cor. of 588-acre tract in S.P.R.R. Sur., Abstract 887, 4½ miles N of Grand Saline ..... S. D. 1,160 ft.; derrick under water.
Hartt Oil Co.'s No. 1 Dr. L. M. Cox in A. C. Night Sur. 1,785 ft. N of S line and 524 ft. E of W line ..... Derrick.
Humble Oil & Refg. Co. No. 1 Mrs. E. E. Carroll, 150 ft. from S and 150 ft. from W of Carroll 95-acre tract, Wm. Daniel Sur. ..... Location.
Howard & Dooley's No. 1 Elliott 188-ac. tract in W. H. Bundy Sur. ..... Derrick blew down.
Imperator Oil Co.'s No. 1 Canter, 150 ft. from N and W of Carter 171-ac. tract, W. M. Daniels Sur., NE of Van Pool ..... Drlg. 1,275 ft.
Pandem Oil Co.'s No. 1 Brinn & Gibbard in Ramon Sunigas Sur., NE of Grand Saline ..... Pecan Gap 2,850-2,975 ft.; S. D. 3,045 ft.
Priest et al's No. 1 Blewett, 175 ft. NW and SW of SE cor. of NW 84-ac. tract, E. Porter Sur. ..... Derrick.
Short et al's No. 1 B. C. Andrews, 330 ft. N and 160 ft. E of NE cor. of J. P. Farley 60-acre tract in Margaret Neil Sur. ..... S. D. 3,005 ft.
Texas Chief Oil Co.'s No. 1 Foster, 600 ft. E of W line and 600 ft. N of S line of W. P. Foster's 151-acre tract in F. Montgomery Sur., 7 miles south of Canton. ..... Spudded and shut down.
Pure-Humble's No. 1 L. V. Freeman, 250 ft. from E and 712 ft. from N line of 31.5-acre tract in John Walling Sur., one-half mile E of discovery. ..... Plugged back; trying to produce.
Van Zandt Oil & Dev. Co.'s No. 1 Robinson, located NE cor. of Y'Barbo Sur., 4 miles E of Grand Saline. .... Drlg. 4,140 ft.
Judge A. W. Walker's No. 1 S. H. Keahey, 1,200 ft. N and 132 ft. E of SW cor. of Sur., A. J. Horsley Sur., R. J. Peel farm ..... Derrick.

WOOD COUNTY

Big Indian Oil Co.'s No. 1 R. J. King, 450 ft. W of E line and 150 ft. N of S line of King's 109-acre tract in Wm. Barnhill Sur. ..... Drlg. 2,900 ft.
Pace et al's No. 1 Dickey, 1,200 ft. from E and 300 ft. from S of Dickey 120-ac. tract, J. O. Clark Sur. .... Drlg. 2,785 ft.

EASTERN OPERATORS MEET IN OIL CITY

(Continued from Page 132)

Merle Spencer; Franklin Creek Refining Co., C. H. Alsberg, C. E. McElhinney, C. H. Goss; Freedom Oil Works, B. L. Heath, F. L. Way, R. Baber, B. Byron; Swan-Finch Refining Co., I. L. Klein, F. W. Richardson; Continental Refining Co., T. A. Anderton, J. C. Vegan; Warr-Penn Refining Co., G. W. Campbell, R. G. Williamson, C. Peterson; United Refining Co., MacLean Houston; Tri-State Refining Co., G. C. Davidson; Levi Smith Refining Co., William Schwartz, C. D. Blair; W. H. Daugherty and Son, Dr. G. A. Kessler, C. E. McGinnis; Valvoline Oil Co., Charles M. Noyes, E. R. Smith; Kendall Refining Co., Lon Crawford, S. M. Wolbert, E. E. Brown, H. H. Greene; Conewango Refining Co., W. L. Gettings, A. A. Gohn, R. S. Dawson; Ohio Valley Refining Co., J. P. Flynn, W. R. Rietz, J. B. Northrop.

Plans for the annual meeting of the National Petroleum Association to be held at Atlantic City in September were discussed at the annual spring gathering of the trustees of the Wanango Country Club yesterday.

Reports of the work in various departments were made by the trustees. The traffic department reported that the rate on coal to the Warren district has been reduced; the department of standards and tests announced that the meeting of the technical representatives with the Bureau of Standards at Washington, D. C., had been set for June 6.

The McKean County Refining Co. was elected to membership and Otto Koch, president of the Kendall Refining Co. of Bradford was elected a trustee.

Other departments reporting were fire prevention and safety and insurance.

NEW CORE DRILLING COMPANY

Dr. W. R. Sullivan, W. E. Brown, J. H. Shelton, Sam A. Leake and S. R. Threlkeld have formed the Universal Core Drilling Corp., Dallas, Tex., to use an improved type of core drilling machine which they say is not only capable of locating the geographical highs, the various formations, etc., but offers a modern way of getting sand cores and is equipped with a new and positive sand-testing apparatus. By first locating the various oil-bearing sands with this new machine, cores are obtained and test is made of the sands encountered. A feature of these core drilling tests is that no teritory is condemned by its use, as all of the finds are of such a nature as to be kept strictly private. Tests up to 3,500 feet can be made with this machine, the members of the company say.

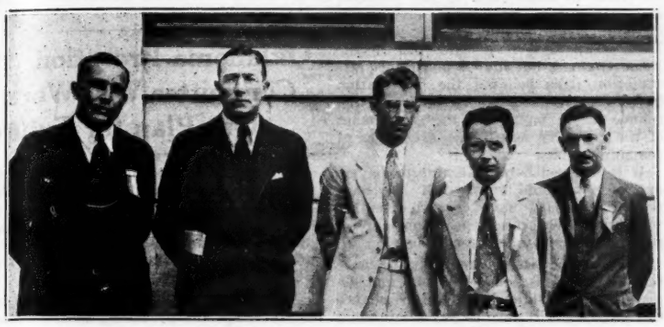
SHELL OPENS TERMINAL

Shell Petroleum Corp. opened its new marine terminal on the Maumee River at Toledo this week when the tanker Martha E. Allen arrived at the plant with a cargo of 31,828 bbls. of gasoline. The cargoes are unloaded by a pipe line system, which materially reduces handling costs. The products were manufactured in Shell refinery at East Chicago, Ind.

MID-CONTINENT SCOUTS AND LAND MEN MEET IN ANNUAL CONVENTION

The annual meeting of the Mid-Continent Oil Scouts and Land Men's Association in Tulsa on May 23 and 24 was largely attended by members from Kansas and Oklahoma and a number of scouts and land men from states outside the membership field.

The scouts, who have won the name of "The Eyes of the Oil Industry," and the land men, held their formal meetings in the Hotel Tulsa, reviewed the work of the past year and elected officers for the coming year. Ralph Walkingstick, chief scout for the Tidal Oil Co., Tulsa, was elected president. Mr. Walkingstick has been acting president for much of the past year following the resignation of Robert P. Brewer, Jr., who moved to San Antonio, Tex., which is outside the Mid-Continent area. E. L. Hogan of Wichita, Kans., scout for the Prairie Oil Co., was chosen vice president; B. B. Braly, Wichita, Kans., Barnsdall Oil Co., second vice president; and M. P. Norwood, Sapulpa, Okla., Prairie Oil & Gas Co., was re-elected secretary and treasurer.



New officers of the Mid-Continent Oil Scouts and Land Men's Association elected at the fifth annual convention held in Tulsa, May 23 and 24. Left to right, Ralph Walkingstick, Tidal Oil Co., president; B. B. Braly, Barnsdall Oil Co., second vice president; E. L. Hogan, Prairie Oil & Gas Co., first vice president; G. A. Schwab, Barnsdall Oil Co., chairman of the board; and M. P. Norwood, Prairie Oil & Gas Co., secretary and treasurer.

The annual banquet was held on Friday evening, S. M. Blevins presided. An address of welcome was delivered by Police Commissioner Tom Munroe on behalf of the city of Tulsa. President Walkingstick responded to the greeting. E. B. Reeser, president of the Barnsdall Oil Co. and president of the American Petroleum Institute, paid high tribute to the oil scout commending the enthusiasm, ability and loyalty of the young men upon whose reports the oil executives depend to keep them informed on events in the field.

Turning to the oil business in general Mr. Reeser gave some interesting facts and statistics. He expressed himself in favor of unit operations in the development of oil pools in order to keep production of crude in line with refinery demand. The statement had frequently been made, he said, that if the larger oil companies would abandon their drilling campaigns the problem of overproduction would be solved. In reply to this Mr. Reeser quoted Irving Fisher, famous Yale University economist with the statement that there are 16,000 big and little oil companies and individuals engaged in the production of oil in America and that of these, 37 companies control 80 per cent of the country's crude oil output, and that of the 37 companies, nine report 75 per cent of the total net profits of the industry. These nine companies produce 55 bbls. of every 100 bbls. of oil produced in 1929. Continuing, Mr. Reeser said that a recent survey of all the drilling wells in the United States showed that the companies controlling 80 per cent of the production were drilling only about 34 per cent of the wells, whereas those controlling only 20 per cent of the production were drilling 66 per cent of the wells.

Wirt Franklin, president of the Wirt Franklin Petroleum Corp., and president of the Independent Oil Producers Association of America, reviewed the efforts of the association to obtain a tariff on oil imported into the United States. Much of Mr. Franklin's address has been printed before. He expressed himself in favor of either a tariff or an embargo to relieve the overproduction situation and made it plain that his association would continue its effort to obtain either one or the other measures.

The papers written by oil scouts covering a number of the most interesting fields in Kansas and Oklahoma, typewritten and mimeographed, were bound in pamphlet form and distributed to members and others interested. The reports of the scouts make a very valuable source of reference.

Saturday afternoon the members of the association were entertained with a barbecue on the W. E. Brown farm south of the city. During the convention the ladies of the party were kept well entertained by a special committee and Saturday evening the two-day meeting closed with a dance in the Topaz Room of the Hotel Tulsa.

FUEL OIL STRONGEST IN GULF COAST MARKET

HOUSTON, Tex., May 27.—Fuel oils again continued the strongest point in the Gulf Coast market. At the opening of this week these oils reflected further tightness with stiffening of quotations with the market completely in the hands of the sellers. Fuel oils in cargo lots, which indicated a slightly easier tone for two weeks with some material available, again have tightened with very little obtainable at any figure. Tuesday some sellers were quoting as high as 90 cents and at this figure were as able to get this as those sellers quoting slightly less. Some material has been offered at lower prices but generally this has been found to have been of lower quality.

There has been developing a little movement on what is called the barge market on which Bunker C grade fuel is being quoted from 95 cents to $1. This is for material moving out of refineries by barges in lots of around 10,000 bbls. and is largely for fuel purposes more or less locally on the Gulf Coast.

The bunker market also continues very strong in line with the cargo and barge market and the general tightness. Material for this purpose is quoted from $1.05 to $1.10. Gas oils continued steady at a minimum of 3¾ cents with some sellers quoting 4 cents for better grades. This product usually is fairly constant in supply, ordinarily there being very little for the open market. Diesel oil Tuesday was quoted at $1.80 a barrel and strong.

Little change has been indicated in gasolines. Motor fuels, which eased off to a minimum of 8 cents with the weakening of the North Texas market, held steady at that low the past week. A large part of the gasoline market, however, is being held up to 8½ cents. These prices are solely for domestic tank car movement, cargo material being available at slightly lower quotations with that demand not active.

Pale and red oils continued steady in demand and quotations.

HOPE TO CUT BRADFORD-ALLEGANY PRODUCTION 8,000 BBLS. PER DAY

BRADFORD, Pa., May 24.—A meeting of the executive committee of the Northwestern Pennsylvania Producers Association, which was appointed by President A. E. Booth, was held in the offices of E. C. Emery. Members of the committee present were B. H. Collins, F. D. Dorn, E. C. Emery, Dr. W. J. Fredericks, R. M. Haskell, W. J. Healey, William J. Sloan, H. Ryder and Donald Tanner.

The 36-hour shutdown, on May 17-18, was discussed at length and the opinion was expressed that about 85 per cent of the producing oil wells in this field had been shut down. It was felt by the committee that this was remarkable in as much as there had been insufficient time to reach more than a portion of the producers and the only pressure applied to bring it about was urgent necessity. To restrict production was the thought uppermost in the minds of every producer in the field.

Many producers who were not present at the meeting joined in the shutdown. It is too soon to know the results obtained by shutting down. The results as to how much production was cut in the 36-hour period cannot be determined until a complete check of the field is made. That it was considerable, however, is the general belief of the producers at the meeting.

Results Are Discussed

The committee received reports on properties that were shut down showing some of the adverse features. A shortage of gas to resume operations Monday morning was the most common. Fear was felt by some that a continuation of these complete shutdowns would permanently injure some of their properties because on starting again, the water was by-passing the oil.

Then, too, some properties were affected much more than others. A company, or individuals, owning several leases might have the greatest decrease in oil where costs were most. The amount of reduction for the 36-hour shutdown period was not yet known, but the committee felt that a more exact method of curtailment was necessary, and the following resolution was unanimously adopted:

"That whereas the 36-hour shutdown in the Bradford Field inaugurated last Saturday was about 85 per cent complete with a noticeable reduction in production, and was wholeheartedly carried out, it is apparent that because of mechanical difficulties, and a fear that considerable damage to some properties might follow if continued, it is advisable to use another method of curtailment.

Suggest Voluntary Curtailment

"Therefore to insure a definite reduction by all, in the amount of crude production in the Bradford Field, be it resolved to recommend to the general committee that the 36-hour weekly shutdown plan be rescinded. As a substitute this committee recommends and endorses the following plan:

"That every producer in the Bradford Field shall reduce his or their production for the periods between May 16 and May 30, inclusive, and June 1 to June 30, 1930. That the amount of oil to be produced by each operator during this time shall not exceed 80 per cent of the oil runs of said producers for the month of April, 1930. That producers determine for themselves the method to be employed in making the above reduction."

Two hundred and twenty-five oil producers in the Allegany Field in attendance at the meeting in Wellsville signed the agreements to restrict production to 80 per cent of the field's April output. More than 75 per cent of the field's total production was covered by these agreements.

In order that close co-operation may be secured among the producers it was decided to hold future New York State association meetings monthly, instead of annually has heretofore. The next general meeting of the association will be held at an early date.

It is believed that nearly 8,000 bbls. a day can be cut from the Bradford and Allegany Field production. The committee stresses the fact that every producer should join in this movement now in order that production may be cut at once to meet the purchasers' requirements.

ALBERTA ASSOCIATION MEETS

CHATHAM, Ontario, May 24.—At the annual meeting of the Oil & Gas Association of Alberta at Calgary it was decided to increase the association's board of directors. The following were elected for 1930: W. S. Herron, J. H. McLeod, W. E. McLeod, F. M. Graham, George H. Cloakey, P. D. Mellon, J. C Dallas, Floyd Huff, T. A. Link, C. A. Moore, A. C. Galbraith, R. E. Wilkinson, D. A. Lane, F. F. Filteau, S. J. Davies, W. D. Lundy, B. F. Hake, William Pearce, James R. Lowery, E. W. Kolb, Everitt Marshall, Julian Garrett, G. H. Webster, Eric Harvie, R. Van A. Mills, R. V. Johnson, L. Farrish, S. E. Slipper, F. Fulton, L. H. Watts, L. V. Baxter, A. W. Dingman, B. L. Thorne and C. W. Hague.

DEATH OF F. B. REED

F. B. Reed, 83 years old, died in Los Angeles, Calif., Thursday, May 22. He was the father of Wade R. Reed of the Sinclair Pipe Line Co., Tulsa. Deceased was formerly a resident of Lima, Ohio, where he was engaged in the oil business. Another son, K. N. Reed, resides in Pasadena, Calif., and a daughter, Mrs. R. L. Bryan, in Los Angeles, Calif.

Southeastern Ohio Producers May Start Their Own Refinery

LOGAN, Ohio, May 24.—The annual meeting of the Southeastern Ohio Oil & Gas Men's Association was held in this city on Wednesday. President E. J. Mildrem was in the chair and introduced the discussion of the downward trend of southeastern Ohio crude oil prices and the possibility of a remedy.

One of the solutions suggested was that Southeastern Ohio producers refine their own oil.

The directors met at the afternoon session to act on a resolution calling for the support of the producers in a movement which had for its purpose the establishment of a refinery which had been given the endorsement of the association. The following committee was appointed to work on the subject: E. J. Mildrem, chairman ex-officio; O. C. Dunn, vice chairman; W. E. Burns, H. G. Chamberlain, William Meister, William Harrington, Marietta; J. P. Gordon, Marton Lupher, Columbus; Barton Holl, H. D. Atha, Charles Bell, Logan; Fred Stover, New Matamoras; F. W. Douglas, I. C. Grimm, Woodsfield; W. Hunter Atha, Zanesville; Clyde Foraker, New Lexington; A. D. Hufford, Bremen, and V. O. Zahnizer, Washington, Pa. This committee met immediately after the meeting and formulated plans and arranged to meet at Zanesville May 31.

OIL AND GAS INCOME TAX RETURNS DISCUSSED BY REVENUE ENGINEER

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., May 26.—About 5,000 income tax returns are filed every year embodying income from oil and gas to an important extent and sufficient to warrant more than routine attention by the Oil and Gas Sub-Section, Engineering Section, Income Tax Unit, Bureau of Internal Revenue. Of these 5,000 income tax returns involving oil and gas it is necessary in at least 1,000 cases, or 20 per cent of the whole, to have further explanation from the oil companies or individuals making the returns. In other words, 1,000 returns must be sent back to have statements made in them substantiated or to have explanations that should have been made in the return when originally made to the Bureau of Internal Revenue.

In addition to these 1,000 returns that must be explained there are many others that require more or less adjustments of the computations made by the taxpayers. The writer asked Lloyd C. Gibson, chief oil and gas engineer, of the Engineering Section, Audit Review Division, what was the cause of this large percentage of returns that were not sufficiently explicit and correct to permit them to be disposed of without a further contact with the taxpayer. He promptly replied that the chief cause of this condition was the failure of the taxpayer to give sufficient information to explain the income deductions or to substantiate his right to the deductions. In other words, according to the view here, if the taxpayer would be more explicit in respect to the facts upon which he bases his right of deduction the work of Oil and Gas Section would be expedited to a very large extent.

Many times a taxpayer submits the computation of his depletion but there is no explanation accompanying the computation to indicate why he believes he is entitled to the depletion claim.

Another reason for many faulty returns is the misapplication of the law and regulations which the taxpayer has before him and which the treasury department has endeavored to make as clear as possible for his guidance. Sometimes there is simply a failure to understand the application of the law and regulations and sometimes the taxpayer sincerely disagrees with the interpretations placed upon the law and regulations by the treasury department and endeavors to substitute his own interpretation. Final legal decision on such controversial points of course requires time for full consideration. It sometimes happens that basic issues are known to be in litigation either in the courts or before the board of tax appeals and this tends to create a doubt in the taxpayer's mind in regard to the application of the law and regulations and his returns reflect that doubt. Naturally he desires to keep the matter open until the question is decided, if it involves a material amount of tax.

However, the records of the Oil and Gas Section give ample evidence that both the treasury department and the taxpayers are becoming more and more familiar with the business of making and passing upon these returns. Formerly the bureau was five years behind in its work but year after year it has brought this work more nearly current. In 1924 it was five years behind but at present is so nearly current that Congress, in the Revenue Act of 1928, cut down the period of the statute of limitations to two years. Congress has gradually reduced the statute of limitations as the bureau's work has been brought up more nearly current.

Faulty Returns

The trouble given to the taxpayer by a faulty return and the delay that occurs is readily understood when the routine to which the returns are subjected is known. The return is first filed with the collector and is forwarded to Washington where it is gone over. In many cases this preliminary examination can be promptly made but a failure to give full explanation sends the return back to the field agent for further examination. During the present summer a great many taxpayers will be asked by these field agents for further information. If an agreement can be reached by the revenue agent in the field the taxpayer is given an opportunity to perfect his return and to have it approved but such approval is still subject to review when it is sent back to Washington. Otherwise it must come back to Washington for readjustment, which sometimes necessitates a hearing here or elsewhere.

Great stress is placed upon "Form O," which the Government has simplified in an effort to make clear to the taxpayer the information he should give when claiming depletion and other deductions. Many taxpayers, it is said, fail to file Form O at all, but if it is given adequate attention it is believed the information it calls for would avoid many delays and relieve the taxpayer and the government of the necessity for further exchanges of communications.

It is believed here that nine taxpayers out of ten could supply all the data needed by giving more careful attention to Form O together with a more careful reading of the law and regulations.

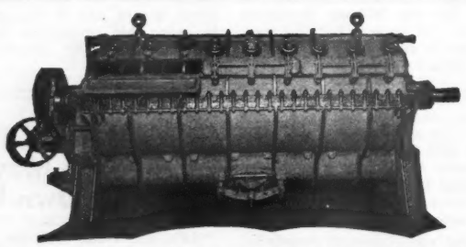
It should be remembered that the more fully the reasons for deductions and depletion are explained the better chance the taxpayer will have to pay a minimum of tax because the disinterested government engineer and revenue agent stands just as ready to faithfully reduce taxes as to increase them. The more facts he is given the better he is able to determine the maximum of deductions and the Bureau of Internal Revenue claims it is just as eager to give the taxpayer an advantage as it is to require larger payments from him. They are interested in the execution of the law without regard to the amount of money it returns to the treasury. If the revenue is not sufficient to answer the purposes of Congress, Congress can change the law.

Importance of Records

One thing seems very clear to the oil and gas engineers and that is that the taxpayers have overestimated the extent to which their task was simplified by the new percentage depletion provisions. It is true that a few taxpayers, and particularly those lessors who have little or no money invested, have nothing more to do than to take, as depletion, 27½ per cent of the amount received as royalty payments. The experience of the past few years shows, however, that an operator of any importance must still, for his own advantage, keep a record of the extent to which his estimated recoverable reserves, and hence his investment, in each property has been depleted each year. This becomes a factor affecting his income tax if he makes a net loss during the year which he wants to apply against the next year's income, or if he sells a producing property, or if his margin of operating profit would be so small that cost depletion would exceed the percentage depletion. Such a record is also necessary if the taxpayer takes his depreciation of well and lease equipment at the rate of exhaustion of the oil and gas.

One fact which, according to the oil and gas engineers, is apparently not clearly understood by some taxpayers is that the depletion computation must be made separately for each property. Another is that the gross incomes to be used in the computation does not include any income from collateral operations such as transportation or manufacture or income from interests which are really the property of other taxpayers who ultimately received the income. Again he should not think because he files information in the first year he bought the oil property, in order to include it in his first return, that he can rely upon that information as being sufficient for the succeeding years. Each year he should furnish enough additional information to supplement and bring it down to date. He cannot refer to that original information from year to year as the basis of his return without showing that it does apply to later years and does, together with additional facts given, make perfectly clear the condition of the property each time he files an annual tax return.

The bureau is very anxious to have it understood that it is fully in sympathy with all the difficulties a taxpayer experiences and does not assume an attitude of criticism in any unfriendly spirit. It is seeking to lighten the burdens of the taxpayer and is always ready to give advice and avoid irritating comment. It has been through the same difficulties as are experienced by the taxpayer and believes that from year to year the work has become simplified more and more for everyone concerned. The fact is, the Treasury Department is more than ready to receive further suggestions for further simplification whenever they are offered by the taxpayer.



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Oklahoma Proration Committee Will Work Out Plan for Future

The Oklahoma Proration Committee will meet in Tulsa, Thursday, May 29. It is expected an effort will be made to have all large producing oil fields of the State placed on a proration plan similar to that in operation in the Oklahoma City Pool.

Oklahoma City is the only pool in the State where the producing wells are curtailed on a time basis, flowing wide open part of the time and then shutting in completely the rest of the time. At present the wells are allowed to flow their capacity two days out of every 12 days, or 16⅔ per cent of the time.

Some operators in the Oklahoma City Pool have complained that this curtailment is too drastic as long as other pools are allowed a longer measure of production. Oklahoma City operators attending the conference will discuss the prospects for increasing the daily average runs to 25 per cent, but it is not considered probable that the curtailment will be lifted this summer.

EXPOSITION EXPANSION NOW WELL UNDER WAY

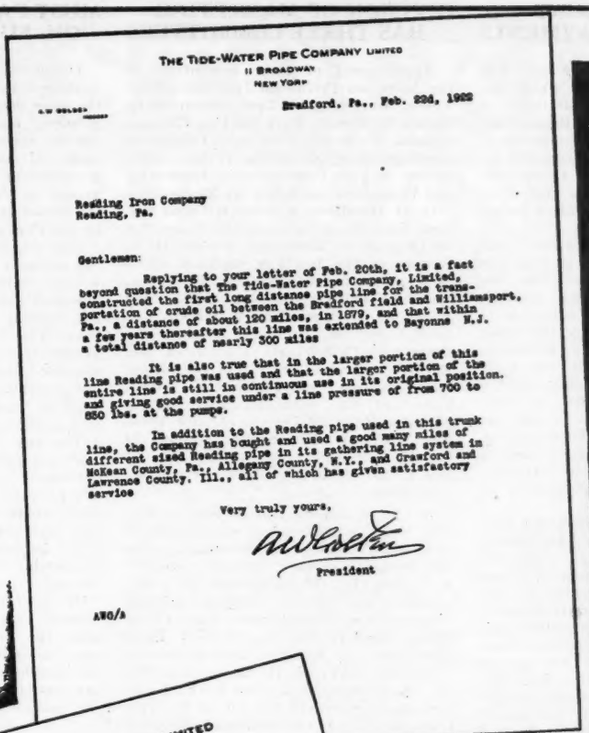
A report by General Manager William B. Way of the International Petroleum Exposition and Congress, shows the work completed to date on $200,000 expansion program for 1930: Completion of the marketers and refiners building, 240'x60', all steel with cement floor overlaid with wood; installation of 450 feet of gas main lines, 4 and 6-inch; additional 450 feet of water mains, 8-inch; 600 feet of 10-inch sewer lines completed with an addition of 14 catch basins to drain grounds; 1,400 feet of new sidewalks completed and work started on an additional 1,020 feet, and the near completion of a bar and lunch counter building, 90'x20', adjoining the scientific and technical building.

Work has been started on the second large building, the California building, in the 1930 expansion program. This structure will exactly duplicate the marketers and refiners building and will form a prolongation of the Texas building.

CHARLES L. COLLINS DEAD

Charles Leo Collins, 43 years, an official of the Oswego Petroleum Co., Tulsa, died in Tulsa on May 23. Deceased was a son of the late C. P. Collins, widely known veteran oil man, and a brother to Burt H. Collins, Bradford, Pa.; Ray M. Collins, S. W. and W. H. Collins of Tulsa. The funeral and burial were held in Bradford on Monday.

TWO LETTERS



THE TIDE-WATER PIPE COMPANY LIMITED
11 BROADWAY
NEW YORK

Bradford, Pa., Feb. 22d, 1922

Reading Iron Company
Reading, Pa.

Gentlemen:

Replying to your letter of Feb. 20th, it is a fact beyond question that The Tide-Water Pipe Company, Limited, constructed the first long distance pipe line for the transportation of crude oil between the Bradford field and Williamsport, Pa., a distance of about 120 miles, in 1879, and that within a few years thereafter this line was extended to Bayonne N.J. a total distance of nearly 300 miles

It is also true that in the larger portion of this line Reading pipe was used and that the larger portion of the entire line is still in continuous use in its original position, and giving good service under a line pressure of from 700 to 850 lbs. at the pumps.

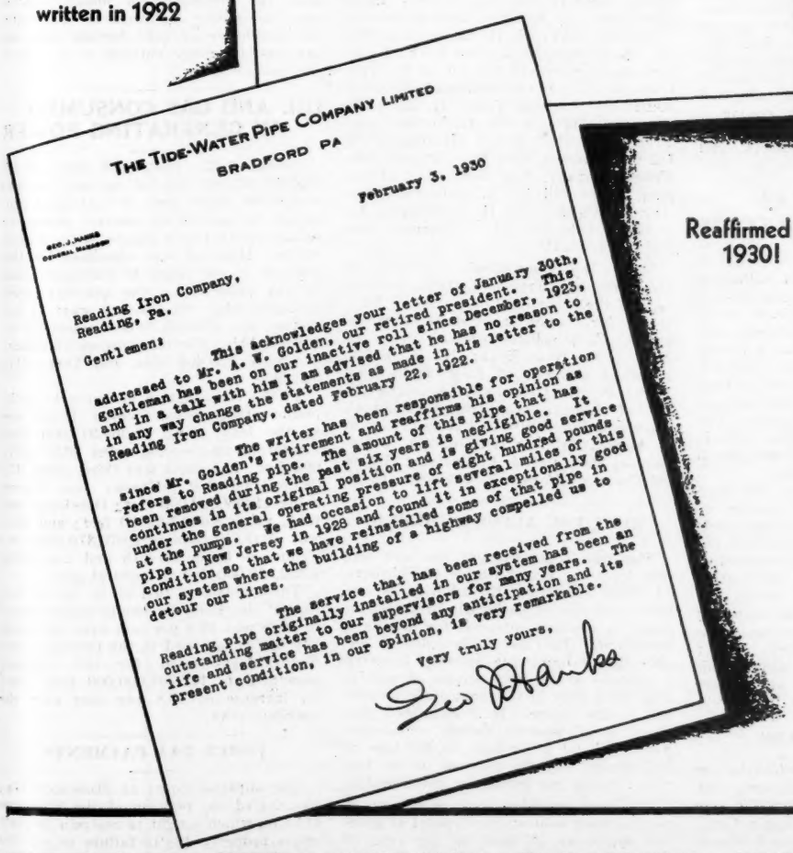
In addition to the Reading pipe used in this trunk line, the Company has bought and used a good many miles of different sized Reading pipe in its gathering line system in McKean County, Pa., Allegany County, N.Y., and Crawford and Lawrence County, Ill., all of which has given satisfactory service

Very truly yours,

President

ANG/s

This letter was written in 1922



THE TIDE-WATER PIPE COMPANY LIMITED
BRADFORD PA

February 3, 1930

Reading Iron Company,
Reading, Pa.

Gentlemen:

This acknowledges your letter of January 30th, addressed to Mr. A. W. Golden, our retired president. This gentleman has been on our inactive roll since December, 1925, and in a talk with him I am advised that he has no reason to in any way change the statements as made in his letter to the Reading Iron Company, dated February 22, 1922.

The writer has been responsible for operation since Mr. Golden's retirement and reaffirms his opinion as refers to Reading pipe. The amount of this pipe that has been removed during the past six years is negligible. It continues in its original position and is giving good service under the general operating pressure of eight hundred pounds at the pumps. We had occasion to lift several miles of this pipe in New Jersey in 1928 and found it in exceptionally good condition so that we have reinstalled some of that pipe in our system where the building of a highway compelled us to detour our lines.

The service that has been received from the Reading pipe originally installed in our system has been an outstanding matter to our supervisors for many years. The life and service has been beyond any anticipation and its present condition, in our opinion, is very remarkable.

Very truly yours,

Reaffirmed in 1930!

THE letters reproduced here speak for themselves. They show why Reading 5-Point Pipe—Genuine Puddled Wrought Iron—is preferred in the oil country. Remember, Reading 5-Point Pipe is double welded for extra strength. The Reading name and indented spiral mark identify every length of this rust-resisting, strain-defying pipe.

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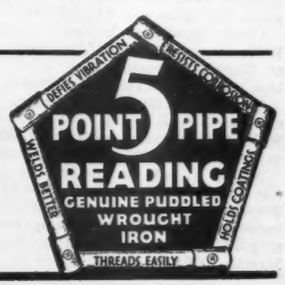

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Of Interest to Sales Departments

Exports and Imports Of Oil and Products In Month of March

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., May 24.—There was a light decrease in the value of petroleum and products exported from the United States in March, 1930, compared with the same month of the previous year, the decrease being from $46,200,455 in March, 1929, to $45,956,000 in March, 1930, according to the monthly summary issued by the Department of Commerce.

During the three months ending March, 1930, the value of petroleum and products exported was $133,794,977, showing a slight increase over the same three months period of 1929 when the value was $133,626,330.

Crude petroleum exported in March, 1930, amounted to 1,944,158 bbls. valued at $2,445,750 compared with 1,600,091 bbls. valued at $2,142,990 in March of the previous year. In the three months ending March, 1930, crude oil exported amounted to 5,482,604 bbls. compared with 5,250,035 bbls. in the same period of 1929.

Refined oils exported in March, 1930, aggregated 11,353,857 bbls. valued at $141,362,505 compared with 9,772,335 bbls. valued at $41,290,443 in March, 1929, these figures indicating a considerably larger price per barrel received for the month of March of this year compared with the similar period of the previous year.

There was also a considerable increase in exports of gasoline, which for March, 1930, amounted to 5,821,295 bbls. valued at $24,714,053 compared with 4,609,459 bbls. valued at $21,235,946 in March, 1929.

There was an increase in the quantity of gasoline exported in bulk from 4,048,502 bbls. to 5,373,487 bbls. in March, 1930, and a decrease in gasoline sent abroad in containers from 560,957 bbls. in March, 1929, to 447,808 bbls. in March, 1930.

Shipments of kerosene decreased from 1,915,559 in March, 1929, to 1,729,844 bbls. in March, 1930.

Exports of lubricating oil decreased from 948,126 bbls. in March, 1929, to 704,788 bbls. in March, 1930.

The value of petroleum and its products imported in March, 1930, was $11,707,438, which showed a slight increase over the same month of 1929 when the value was $11,405,618.

Crude petroleum imported in March, 1930, amounted to 4,827,300 bbls. valued at $5,015,615 compared with 6,790,430 bbls. valued at $6,748,635 in March, 1929.

Refined oils imported in March, 1930, amounted to 3,705,031 bbls. valued at $6,583,912 compared with 1,480,180 bbls. valued at $4,471,596 in March, 1929.

Nearly all of the imports of refined oils consisted of gasoline, of which 1,368,658 bbls. valued at $4,803,189 were imported in March, 1930, compared with only 327,058 bbls. valued at $3,142,034 in March, 1929.

ASSOCIATED SELLS ASPHALT

The Associated Oil Co. with headquarters in San Francisco, Calif., is now offering several grades of asphalt through its several sales divisions in West Coast states. The company has been doing considerable research work at its Avon, Calif., refinery covering the manufacture and utiliation of asphalts. The company recently received a large order from the California Highway Commission.

NO SPECIAL DISCOUNT IN GAS TAX PAYMENTS

HARRISBURG, Pa., May 24.—The state department of revenue which has charge of gasoline tax collections in Pennsylvania has issued a statement that no organization can secure exemptions or reductions in gasoline tax payments except those provided by law. Certain organizations in Pennsylvania and other states are said to have promised reductions in the gasoline taxes.

"It has come to our attention," said Commissioner Eynon, "that at least one organization has represented that for gasoline vendors who purchase membership cards it can secure a reduction of 2 per cent in the amount due the State. The promise is quite without foundation.

"The act of May 1, 1929, sets forth that 'until the first day of July, 1930, a state tax of 4 cents a gallon, or fraction thereof, and thereafter a state tax of 3 cents a gallon or fraction thereof, is hereby imposed and assessed upon all liquid fuels sold by dealers in this Commonwealth, except for the purpose of resale.'

"The act does not see that the individual dealer may reduce the amount owed the State by 2 per cent, 3 per cent or 10 per cent, for spillage, leakage, evaporation, or any other cause. It says specifically 'upon all liquid fuels sold.' It has been the policy of the auditor general and the department of revenue, however, to allow proven losses sustained by the dealer, it being our opinion that some wastage really occurs. But the promise of any organization that it can secure for its members reductions not to be had by the nonmember dealer or vendor is merely a tempting bait, held out by solicitors hoping to delude the unwary, and should be disregarded."

DISTRIBUTION OF GAS IN TANK CARS SUCCESS

That the distribution of natural gas in railroad tank cars for use in industrial plants is now an assured success is seen in the announcement by Phillips Petroleum Co. that liquefied petroleum gas marketed by the Philfuels Co., a totally owned Phillips subsidiary, has been accepted as a source of fuel by more than 20 nationally known industrial concerns in the United States and Canada. The company also reports it is adding approximately 3,000 new customers per month in this division of its activities.

Many of the large concerns who have accepted this gaseous fuel, known as "Butane," are in, or are connected closely with, the automotive industry whose engineers are noted for their progressiveness in adopting improved production methods. Among the plants being supplied are those located in the following cities: Detroit, Saginaw, Lansing, Jackson, Pontiac and Battle Creek, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chicago, Ill.; Oshoawa, Ontario, and Anderson, Ind.

LOAN FOR TANKERS

A loan amounting to three-fourths the cost of building five oil tankers, but which may not exceed $6,328,125, has been granted the Motor Tankship Corp. of Philadelphia by the United States Shipping Board. When completed, the vessels are to be operated under charter in the general oil-carrying trade.

The ships, which will be built in the Sun Shipbuilding & Drydock Co.'s yards at Chester, Pa., will be approximately 13,500 tons deadweight, of Diesel propulsion, and capable of 11 knots speed.

Contracts already have been agreed upon with the shipbuilder and construction will be commenced forthwith.

DIVISION OF MARKETING HAS THREE COMMITTEES

Appointment of three committees of the American Petroleum Institute's Division of Marketing has been announced by Henry M. Dawes, Pure Oil Co., Chicago, division chairman. They are: Committee on Disposal of Marketing Wastes, Committee on Fire Prevention in Marketing, and Committee on Safety in Marketing.

O. H. Gundlach, Sinclair Refining Co., New York, is chairman of the Committee on Disposal of Marketing Wastes. D. V. Stroop, of the Institute staff, is secretary and the members are: W. H. Correa, Standard Oil Co. of New York, New York; F. A. Epps, Tide Water Oil Co., New York; W. B. Hart, Atlantic Refining Co., Philadelphia, Pa.; J. H. McEachern, Standard Oil Co. of California, San Francisco, Calif.; George C. Morris, Pure Oil Co., Chicago, Ill.; H. O. Nicholls, Richfield Oil Co. of New York, New York; G. F. Prussing, Union Oil Co. of California, Los Angeles, Calif.; and R. A. Wotowich, Cities Service Co., New York.

R. A. Wotowich, Cities Service Co., New York, is chairman of the Committee on Fire Prevention in Marketing, with Mr. Stroop secretary. Members are: T. J. Callen, Jr., Wadhams Oil Co., Milwaukee, Wis.; C. J. Cutting, Atlantic Refining Co., Philadelphia, Pa.; C. A. Ellis, Standard Oil Co. of New York, New York; F. A. Epps, Tide Water Oil Co., New York; H. B. Estep, Richfield Oil Co. of New York, New York; N. R. Grimshaw, Standard Oil Co. of Indiana, Chicago, Ill.; O. H. Gundlach, Sinclair Refining Co., New York; H. H. Hall, Standard Oil Co. of California, San Francisco, Calif.; Frank Harrison, Pure Oil Co., Chicago, Ill.; R. C. Powell, The Texas Company, New York; G. F. Prussing, Union Oil Co. of California, Los Angeles, Calif.; and H. J. Wilson, Associated Oil Co. of California, San Francisco, Calif.

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MUST USE ALCOHOL BLEND

The Italian government has now put into force the Royal Decree of February 14, 1930, compelling the addition of certain quantities of nationally produced alcohol to gasoline intended for use as a carburant. The law is designed to enable the Italian wine growing industry to dispose of its large stocks of unsaleable wine both in the immediate present and in the future. It is estimated that there is at present enough unsaleable wine on hand to produce 10,000 tons of 95° alcohol and the purpose of the law is to provide an outlet for this surplus.

The law provides that producers of alcohol must hold at the disposal of gasoline importers at least 25 per cent of their product and that the gasoline importer in turn must buy this alcohol in the ratio of 1½ anhydrous hectoliters for each 100 quintals of gasoline imported, paying therefor 130 lire per hectoliter.

The alcohol so purchased must in the presence of government officials be denatured with a denaturing agent bought from the Denaturant Laboratory of Milan, at lire 10 per liter.

MUST PAY TAX ON DIESEL OIL FUEL FOR AIRPLANES

Diesel oil used as fuel for airplanes is subject to the gasoline tax payment in the same manner as gasoline according to a ruling made by the attorney general for the State of Washington. One of the large oil companies has recently made available at several airports a product known as "Aerodiesel Fuel" for use in the Diesel aeroplane motor manufactured by the Packard Motor Car Co.

The company selling the fuel protested the payment of the state gasoline tax of 3 cents stating: "This particular Diesel motor is solely used in airplanes. It is not feasible motive power for automobiles. This fuel will be sold only for use in the airplanes equipped with the above described motor, and is not practical for use in airplanes other than those equipped with the said Diesel airplane motor and is not practical for use in automobiles."

The law requires an excise tax of 3 cents per gallon to be paid by distributors of liquid fuel sold within the State of Washington, the assistant attorney general explained. "There is no question that the product described is a liquid fuel," he said, "and the tax accordingly is payable thereon in the original instance."

If the fuel is actually used only for airplane purposes or any purpose other than the propulsion of motor vehicles over the public highways of the State, the purchaser or user having paid the tax would become entitled to a refund, the opinion held.

OIL AND GAS CONSUMED IN GENERATING POWER

During 1929, 10,124,216 bbls. of oil, 112,706,617,000 feet of natural gas and 44,937,230 short tons of coal were consumed in generating electric power by public utility power plants in the United States. More oil was consumed for this purpose in the State of California than in any other state, the quantity being 2,158,586 bbls. The second state in this respect was Florida, which consumed 2,036,481 bbls. For this purpose Oklahoma consumed 150,404 bbls. and Texas 617,523 bbls.

In the consumption of natural gas by public utility power plants Texas was in the lead using 38,364,918,000 feet. California was second, using 26,914,327,000 feet; Louisiana was third, using 17,283,982,000 feet; Kansas was fourth, using 11,287,668,000 feet; Oklahoma was fifth, using 8,606,135,000 feet; and Ohio was sixth, consuming 4,070,370,000 feet; Tennessee being seventh and consuming 3,392,040,000 feet of natural gas.

The increase of fuel oil in the production of electricity by public utility plants in 1929 was 41.4 per cent over the quantity of fuel oil used in the previous year. Natural gas used for this purpose amounted to 112,707,000,000 feet, being an increase of 45.8 per cent over the previous year.

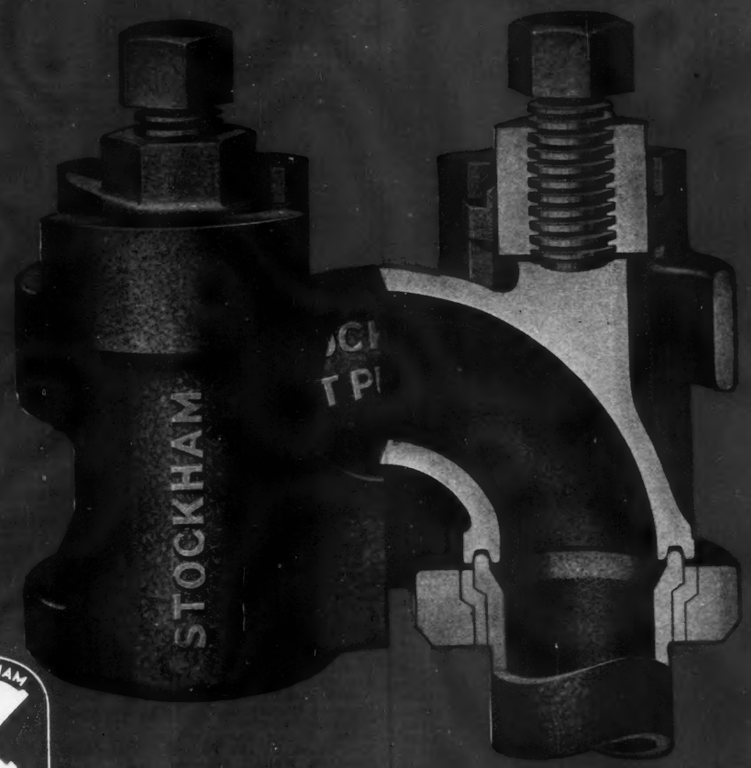
FORCE TAX PAYMENTS

The superior court at Muscogee, Ga., has denied the petition of the Muscogee Oil Co., which sought to restrain the sale of its property due to failure to pay the State's gasoline tax. The court held in effect that the comptroller general as chief fuel oil inspector may enforce collection of the gasoline tax by a sale of the tax payer's property.

INCREASE MISSISSIPPI TAX

The lower house of the State of Mississippi has passed a bill increasing the State gasoline tax from 5 to 6 cents.

STOCKHAM
FANTZ-TYPE
RETURN BEND
facilitates tube cleaning and renewal



STOCKHAM FITTINGS

There is a STOCKHAM FITTING *for Every Oil Requirement*
Electric Cast Steel
Cast Iron
Malleable

Designed especially to reduce the time the unit must be out of service for replacement or cleaning of the tubes, the Stockham Fantz-Type Return Bend insures both economy and safety in cracking still operation.

Our Petroleum Division believes you will readily appreciate the many outstanding features of this Stockham Product. Write for additional details.

STOCKHAM PIPE & FITTINGS COMPANY
BIRMINGHAM, ALABAMA

This construction covered by United States Patent No. 1,752,331. This device is also covered by foreign patents.

OKLAHOMA GROSS PRODUCTION, FIRST QUARTER, 1930

(Continued from Page 102)

J

Name and address—	Barrels	M. feet	Amount
Jackson L. B., Tulsa	Oil	.....	643.25
Jackson, L. B., Tulsa	.....	Gas	6,123.55
Jackson, L. B., Tulsa	1,661.90	.....	2,007.31
Jackson, L. B., Tulsa	.....	.....	5,131.22
Jackson, L. B., Tulsa	983.82	.....	1,285.16
Jackson, L. B., Tulsa	Oil	.....	6,123.56
Jackson & Morrison, Tulsa	.....	.....	984.75
Jackson, Wise & Bovaird	.....	.....	3,889.37
Jackson, L. B.,* Tulsa	.....	.....	2,195.71
Jackson, Pearl B.,* Tulsa	.....	.....	1,686.59
Jameson, John B.,* Concord, N. H.	.....	.....	14,986.73
Junction Oil & Gas,* Newkirk	2,948.39	.....	4,819.11
Jennings, Helen S.,* Oklahoma City	.....	.....	2,122.24
Jennings, R. G.,* Pittsburgh, Pa.	4,871.15	.....	6,894.36
Jennings, R. G.,* Pittsburgh, Pa.	.....	Gas	737.39
Jennings, Randolph P.,* Beverly Hills, Calif.	Oil	.....	10,608.51
Jennings, Randolph P., Beverly Hills, Calif.	.....	Gas	521.33
Jones, Robert L.,* Bristow	4,460.78	.....	6,681.10
Jones, Robert L., Bristow	.....	50.743	4,555.83
Jones & Co., R. C., Inc.,* Cushing	.....	.....	10,416.78
Jones, B. B.,* Washington, D. C.	2,913.18	.....	4,810.43
Jones, Lola Belle,* Oklahoma City	.....	.....	8,307.59
Jones, Calvin,* Oklahoma City	.....	.....	5,959.05
Jones, J. Edward,* New York City	.....	.....	6,130.82
Jordan, E. V.,* Maud	.....	.....	5,955.26
Jarvis-Zollinger & Andrews,* Shawnee	.....	.....	9,772.42
Johnston, Willard,* Shawnee	.....	.....	2,897.10
Johnson, C. O., and Geo. C. Pendleton,* Durant	.....	.....	5,342.63
Johnson, C. J.,* Oklahoma City	.....	.....	2,116.29
Johnson Oil Refg. Co., Chicago, Ill.	9,428.06	.....	12,939.33
Johnson, J. T.,* Sulphur	.....	.....	3,306.75
Johnson, B. F., and Eva Mary,* Fayetteville, Ark.	.....	.....	3,100.24

K

Kay County Gas Co., Ponca City	.....	858,632	86,450.65
Kay & Kiowa Oil Co., Tulsa	4,879.08	.....	6,821.79
Kay & Kiowa Oil Co., Tulsa	.....	Gas	640.80
Kay Oil Co., Blackwell	22,984.82	.....	35,567.88
Kewanee Oil & Gas Co., Titusville, Pa.	190,126.88	.....	295,458.23
Kewanee Oil & Gas Co., Titusville, Pa.	.....	4,139,287	.....
Keener Oil & Gas Co., Tulsa	35,326.42	.....	42,530.27
Keener Oil & Gas Co., Tulsa	.....	1,988	87.27
Karcher, M. S., Tulsa	.....	.....	5,490.63
Kershaw, L. R.,* Muskogee	3,811.17	.....	5,193.98
K. D. & H. Oil Co., Ada	2,775.05	.....	2,938.58
Kiester-Manning Co., Tulsa	3,842.80	.....	5,595.36
Kimble, C. C. and Sallie,* Beggs	.....	.....	4,798.48
Kunderer, J. R.,* Oklahoma City	.....	.....	3,427.06
Knickerbocker Royalty Corp.,* New York City	.....	.....	5,222.07
Knappenberger, Frank,* Phoenix, Ariz.	.....	.....	5,444.23
Kanner, Mack,* New York City	.....	.....	9,159.66
Knox, Chas. E., Enid	51,687.46	9,113	76,632.92
Knox & Co., C. E., Enid	661.30	.....	1,202.16
Klein, Nettie,* New York City	.....	.....	6,090.16
King Royalty Co.,* Wichita Falls, Tex.	4,537.23	.....	5,813.28
King, J. T., Independence, Kans.	3,584.37	.....	5,131.22
King, Minnie,* Oklahoma City	.....	.....	3,059.34
Kingwood Oil Co., Okmulgee	24,932.84	.....	51,448.58
Kingwood Oil Co., Okmulgee	.....	14,542	965.46
Knotts, Sarah J.,* Stillwater	3,621.08	.....	4,949.78
Kreola Oil Co., Ardmore	3,364.11	.....	6,035.21
Kreola-Colcord & Commerce, Ardmore	8,824.40	.....	10,418.43
King, Helen Walker, guardian,* Orange Calif.	.....	.....	2,974.54
King, Helen Walker,* Orange, Calif.	.....	.....	12,831.66

L

Lindley, E. D.,* Alex	.....	.....	3,341.34
Lone Star Gas Co., Dallas, Tex.	4,900.00	.....	4,796.89
Lone Star Gas Co., Dallas, Tex.	.....	48,004	3,683.15
Louisiana Oil Refg. Corp., Shreveport, La.	64,242.62	.....	91,218.30
LeFlore County Gas & Electric Co., Poteau	.....	383,687	11,510.61
Lenox Oil Co., Okmulgee	.....	.....	5,962.25
Link Oil Co., Tulsa	16,523.21	.....	21,946.83
Link Oil Co., Tulsa	.....	10,979	326.91
Lawson Petroleum Co., Tulsa	7,885.05	.....	11,567.40
Little Nick Oil Co., Chickasha	.....	.....	28,915.08
Liberty Royalties Corp.,* Tulsa	11,175.40	.....	16,561.86
Lima Oil & Gas Co., Bartlesville	1,931.94	.....	2,221.65
Lima Oil & Gas Co., Bartlesville	.....	507,721	42,287.79
Lilami Oil Corp., Oklahoma City	.....	.....	5,525.74
Lack, B. D.,* Oklahoma City	.....	.....	3,395.93
Lack, B. D.,* Oklahoma City	.....	.....	6,893.93
Lack, Matyse B.,* Oklahoma City	.....	.....	5,926.55
Landowners Royalty Co.,* Wewoka	.....	.....	7,397.64
LaForce and Ferguson,* Limon, Colo.	.....	.....	3,973.63
Laurel Oil & Gas Co., Tulsa	36,513.66	.....	47,628.55
Laurel Oil & Gas Co., Tulsa	.....	115,800	3,304.27
Lattimore, S. H., administrator, estate of Grace Glen Mead, Muskogee	.....	.....	2,472.86
Laster, F. T.,* Shawnee	.....	.....	6,348.33
Laselle, B. A., and T. E., Ada	.....	.....	27,730.41
Laselle, B. A. & T. E.,* Ada	.....	.....	2,955.51
Love, Maud,* Cushing	.....	.....	2,781.77
Ligon, J. A.,* Wewoka	.....	.....	5,078.34
Laughlin, W. T. and L. A.,* Oklahoma City	.....	.....	3,265.10
Lowry, Lucenda H.,* Los Angeles, Calif.	14,726.73	.....	21,868.53
Lebow, C. H., Tulsa	5,020.94	.....	7,717.78
Leah & McCall et al, Nacona, Tex.	8,924.54	.....	5,890.19
Landon, A. M., Independence, Kans.	5,814.97	.....	7,350.31
Leeper, J. D.,* Madill	.....	.....	2,187.83
Lester, W. F.,* Okemah	.....	.....	4,303.26
Lillard, Mrs. J. C.,* Wewoka	.....	.....	4,785.13
Lindley, Mary P.,* Sapulpa	.....	.....	12,233.62
Livingston, W. S. and Amy,* Sapulpa	.....	.....	6,822.68

Mc

McBride, W. C., Inc.,* St. Louis, Mo.	.....	.....	24,060.92
McCroskey, Edgar L. and Carrie F.,* Asher	.....	.....	22,756.90
McCormick, Rose,* Perry	.....	.....	2,965.03
McCartney, E. M.,* Alma	.....	.....	6,271.35
McCulloch Oil Co., Tulsa	79,568.06	.....	113,394.19
McCulloch Oil Co., Tulsa	.....	Gas	2,944.97
McCully, Jr., Chas.,* Guthrie	.....	.....	3,238.32
McCully, Eli B.,* Hennessey	.....	.....	3,137.00
McCully, Chas. and Emma,* Hennessey	.....	.....	7,178.16
McCaughtry, Floyd, Chickasha	.....	.....	4,205.65
McCommas, Bessie,* Madill	.....	.....	2,157.30
McDaniel, W. F.,* Blackwell	.....	.....	2,751.95
McQueen, I. R., Oklahoma City	5,447.22	.....	8,079.64
McGinley-Sigler Co., Fort Worth, Tex.	10,034.41	.....	6,939.85
McKim, Mary,* Oklahoma City	.....	.....	3,417.30
McKinley, Geo. J.,* Independence, Kans.	.....	.....	8,242.09
McKee,* S. H., Tonkawa	.....	.....	7,891.48
McGee, J. M.,* Asher	.....	.....	10,762.70
McGee, R. L., Tuttle	.....	.....	10,303.42
McMahan, C. L., Tuttle	3,584.37	.....	5,131.23
McMahan, C. L., Inc., and C. L. McMahan, Tuttle	10,086.25	.....	14,492.37
McMahan, C. L., Inc., and C. L. McMahan, Tuttle	.....	Gas	137.27
McMahan, C. L., Inc., and C. L. McMahan, Tuttle	49,466.87	.....	69,653.30
McMahan, C. L., Inc., and C. L. McMahan, Tuttle	.....	Gas	892.33
McMan Oil & Gas Co., Tulsa	.....	.....	12,770.05
McMan Oil & Gas, Tulsa	90,658.81	.....	121,355.51

M

Monarch Royalty Corp.,* Kansas City, Mo.	.....	.....	93,280.42
Margay Oil Corp.,* Tulsa	1,407.76	.....	2,375.91
Margay Oil Corp., Tulsa	57,324.19	.....	78,014.95
Midland Royalty Corp.,* New York City	.....	.....	114,140.11
Malernee Oil Co., Oklahoma City	4,839.06	392	6,591.79
Marileen Oil & Gas, Blackwell	5,836.60	.....	8,580.84
Mudge Oil Co., Pittsburgh, Pa.	16,299.50	.....	11,786.47
Meridian Gas Co., Dallas, Tex.	.....	636,847	51,397.64
Minnehoma Oil & Gas, Tulsa	184,425.15	.....	275,416.38
Minnehoma Oil & Gas, Tulsa	.....	724,856	21,552.95
Mul-Berry Oil Co., Cushing	.....	.....	156,593.17
Mullendore Trust Co., Cleveland	.....	.....	29,108.47
Mullendore Trust Co.,* Cleveland	.....	.....	3,862.99
Maud Oil & Gas Co., Oklahoma City	7,232.52	.....	10,877.55
Meyer, Annie,* Sapulpa	.....	.....	2,679.66
Myers, Alice Clark,* Santa Fe, N. M.	.....	.....	2,922.73
Myers, M. T.,* Oklahoma City	.....	.....	90,730.31
Midco Oil Corp., Tulsa	10,998.70	.....	14,968.27
Mid-Continent Petroleum Corp., Tulsa	1,316,871.10	.....	1,770,153.69
Mid-Continent Petroleum Corp., Tulsa	.....	Gas	89,168.96
Mid-Continent Petroleum Corp.,* Tulsa	6,720.16	.....	7,588.66
Mid-Kansas Oil & Gas Co., Findlay, Ohio	507,542.14	.....	722,197.68
Mid-Kansas Oil & Gas Co., Findlay, Ohio	.....	828,719	13,896.23
Markham, Jr., J. H., Tulsa	17,846.89	.....	23,980.38
Magnolia Petroleum Corp., Dallas, Tex.	3,098,268.71	.....	3,825,187.45
Magnolia Petroleum Corp., (paid by others), Dallas, Tex.	57,113.57	.....	82,118.72
Magnolia Petroleum Corp., Dallas, Tex.	.....	Gas	257,188.68
Magnolia Petroleum Corp., (protest), Dallas, Tex.	34,663.25	.....	46,920.79
Magnolia Petroleum Corp., (protest), Dallas, Tex.	.....	Gas	3,983.36
Magnolia Petroleum Corp., (protest), Dallas, Tex.	1,775.17	.....	2,301.59
Magnolia Petroleum Corp., (protest), Dallas, Tex.	.....	Gas	335.46
Magnolia Petroleum Corp.,* Dallas, Tex.	29,106.93	.....	42,261.07
Magnolia Petroleum Corp.,* Dallas, Tex.	.....	Gas	1,814.96
Magnolia Petroleum Corp., (for Emma Coker lease), Dallas, Tex.	4,950.46	.....	6,702.97
Magnolia Petroleum Corp., (suspense), Dallas, Tex.	51,115.25	.....	73,061.91
Magnolia Petroleum Corp.,* (suspense), Dallas, Tex.	.....	.....	73,103.33
Mayes, E. L.,* Tulsa	.....	.....	22,868.41
Minor, Laveda,* Amarillo, Tex.	.....	.....	2,567.90
Million & Thomas,* McAlester	3,452.78	.....	4,208.91
Murphy, J. F., Sapulpa	.....	.....	5,103.12
Murphy Oil Co. of Pennsylvania, Philadelphia, Pa.	9,038.53	.....	11,239.37
Melton, Alice, administratrix,* Duncan	.....	.....	3,544.83
Mathis, M. P.,* Shawnee	.....	.....	5,428.96
Monson, Emma,* Oklahoma City	.....	.....	2,116.29
Moore, Clint, estate, Tulsa	11,857.02	.....	17,101.00
Misener, F. D., Tulsa	6,647.32	.....	7,637.02
Mason, W. G.,* Chelsea	19,411.45	.....	28,102.88
Mellon, J. A.,* Shawnee	.....	.....	3,441.16
Morgan, Dudley D., Tulsa	.....	.....	5,376.62
Milner, Jonas B.,* Allen	3,781.16	.....	4,624.38
Mammoth Royalty Corp.,* Oklahoma City	.....	.....	3,794.35
Metcalf, R. J.,* Fort Worth, Tex.	.....	.....	2,037.12
Maines, J. W.,* Ada	.....	.....	2,568.05
Merrell, Robert,* Slaton, Tex.	.....	.....	2,016.62
Mussellem, Sophia S.,* Muskogee	3,803.51	.....	6,757.67
Mainard, Jr., M. F., Wewoka	.....	.....	2,272.99
Mainard, J. L.,* Wewoka	.....	.....	2,333.60
Meadors, Jr., Frank,* Wetumka	4,127.86	.....	5,625.53
Magruder, G. W. and Myrtle,* Sulphur	.....	.....	6,198.15
Moore, J. Read,* Wewoka	.....	.....	4,842.73
Major Oil Co.,* Okmulgee	.....	.....	2,430.33
Merrick, F. W., Inc., Ardmore	.....	.....	33,653.72
McGraw Oil Co., Tulsa	19,796.60	.....	26,410.66
McGraw Oil Co.,* Tulsa	.....	.....	755.66
Merrick, Ward S., Ardmore	.....	.....	5,142.70
Merrick, F. W., and R. W. Coe, Tulsa	9,917.40	.....	12,604.05
Mayhue, Geo. M.,* Ada	.....	.....	5,152.55
Mayhue, George,* Ada	.....	.....	2,160.32
Mayhue, W. E.,* Ada	.....	.....	2,800.48
Miracle, V. W.,* Okemah	.....	.....	4,213.77
Miller Bros. 101 Ranch,* Marland	.....	.....	7,382.57

N

Natural Gas Producers Corp., Tulsa	.....	.....	87,135.52
Nowata Oil & Refg. Co., Tulsa	5,504.89	.....	7,059.86
New York Petroleum Royalty Corp.,* New York City	.....	.....	2,576.20
New England Oil & Pipe Line Co., Tulsa	5,354.44	.....	7,716.96
National Union Oil & Gas Co., Blackwell	4,879.67	.....	7,662.24
"Nitchey," Seminole	.....	.....	12,200.73
Nelson, R. L.,* Webb City, Mo.	.....	.....	2,403.05
Noe, Frank R., and Phyllis D.,* Seminole	.....	.....	3,082.60
Neustadt, Walter, Ardmore	5,016.06	.....	5,863.77
Newman Corp., W. C., Okmulgee	.....	.....	20,708.30
Newman Corp., W. C., et al, Okmulgee	.....	.....	2,681.66
Noble, Iva E.,* Ardmore	.....	.....	3,741.94
Noble, Hattie E.,* Ardmore	.....	.....	2,806.38
Nichols, G. A.,* Oklahoma City	.....	.....	15,245.36
Nichlos Royalty Co.,* Chickasha	.....	.....	2,619.58
Nichlos Royalty Co., Chickasha	.....	.....	14,330.16
Nadel, I., Tulsa	.....	.....	5,468.95
Noble, Margaret Vivian, Ardmore	12,322.40	.....	17,627.69
Neal, Justina, Maysville	.....	.....	4,376.39
Norwood Oil Co., Tulsa	6,808.79	.....	8,399.02
Norvell, A. S.,* Wewoka	.....	.....	2,456.44
Norris, W. C., Tulsa	.....	.....	8,989.79
National Oil & Dev. Co.,* Tulsa	8,181.17	.....	9,545.37
National Refg. Co., Cleveland, Ohio	3,673.73	20,128	7,027.49
Noble Olson Drilling Co., Tulsa	15,459.21	.....	18,804.21
Noble Olson Drilling Co., Tulsa	824.65	.....	784.60
Nesbett, Carrie Lee,* Tecumseh	.....	.....	2,744.47

O

Olean Petroleum Co., Bristow	1,781.94	.....	2,517.53
Olean Petroleum Co., Bristow	.....	135,685	12,509.42
Ohio Power & Water Co., Sand Springs	.....	132,878	13,287.80
Ohio Osage Oil Co., Tulsa	4,578.07	.....	7,219.43
Ohio Fuel Supply Co.,* Columbus, Ohio	14,125.83	.....	20,599.37
Ohio Fuel Supply Co., Columbus, Ohio	.....	Gas	1,539.94
Oklahoma Co., formerly Marquette Oil Co., Tulsa	9,795.68	148,969	27,671.21
Oklahoma Public Service Corp., Cedar Rapids, Iowa	6,019.47	.....	13,778.29
Oklahoma Natural Gas Corp.,* (suspense), Tulsa	.....	.....	1,732.66
Oklahoma Natural Gas Corp., Tulsa	.....	466,607	46,119.32
Osage Gas Producing Co., Independence, Kans.	453.64	.....	562.46
Osage Gas Producing Co., Independence, Kans.	.....	428,415	38,557.35
Owens, Josie,* Seminole	.....	.....	2,763.17
Operators Royalty Co.,* Tulsa	2,562.79	.....	3,835.94
Operators Royalty Co., Tulsa	.....	Gas	67.61
O'Rourke Oil Co., Bristow	.....	.....	7,820.43
Oliphant, A. G., Tulsa	8,449.58	.....	7,645.47
O'Dell, Ollie B.,* Richmond, Calif.	.....	.....	2,074.36

(Continued on Next Page)

Making Small Gathering Lines Show Bigger Profits

For 26 years Novo has concentrated on the development of portable pressure pumps for oil and water handling jobs where demands do not exceed 154 barrels per hour or 425 pounds pressure.

As a result Novo steps into jobs like this one with positive knowledge of what can be done—and with an appreciation of small job efficiency.

The No. 270 Novo pump shown above is gathering oil from four small handling tanks and pumping it to the loading dock 2½ miles away. Cut-off valves enable the operator to take oil from any combination, or from all four of the intake lines at one time.

And Flud-Oild lubrication reduces the danger of breakdowns and repairs almost to the vanishing point. (In many instances Novo pumps are allowed to run for hours at a time without the attention of an operator.)

This is one example of the way Novo can make those small gathering jobs more profitable. For Novo understands the small oil field pumping problems—and challenges oil field operators to show more efficient low cost operation on such jobs, than is possible with Novo Flud-Oild Pressure Pumps.

NOVO ENGINE COMPANY

240 Porter Street Lansing, Michigan

Clarence E. Bement, *Vice Pres. & Gen. Mgr.*

NOVO

PUMPS — ENGINES — HOISTS

The above is one of the jobs detailed in the new Novo Pumping Handbook. Other Novo pumps are shown washing oil wells—handling oils and casing head gasoline—and supplying water to drilling rigs. Write for your copy today.

Name and address—	Barrels	M. feet	Amount
Osborn, W. B.,* Ada	.....	.....	8,081.76
Ona Oil Co., Blackwell	.....	.....	24,273.30
Olds, Helen B., Russell B. and Horace B., Charles City, Iowa	60,189.99	22,227	33,368.36
Orwig, S. S.,* Wewoka	.....	.....	11,473.55
Oil Producing & Royalties, Inc.,* Elizabeth, N. J.	.....	.....	10,649.19
P			
Petroleum Producers Co., Wichita Falls, Tex.	4,770.20	.....	6,593.59
Petroleum Royalties Co.,* Tulsa	.....	.....	119,169.43
Petroleum Royalty Corp.,* Tulsa	.....	.....	25,392.97
Petroleum Co., The, Tulsa	3,835.70	.....	4,923.13
Petroleum Co., The, Tulsa	.....	5,432	281.65
Petroleum Co., The, and M. H. Mosier, Tulsa	9,509.72	.....	12,211.53
Petroleum Co., The, and M. H. Mosier, Tulsa	.....	11,575	524.79
Petroleum Rights Corp.,* New York City	.....	.....	11,003.40
Papoose Oil Co., Tulsa	78,740.14	201,110	119,289.26
Pure Oil Co., Chicago, Ill.	1,411,737.82	.....	2,015,687.96
Pure Oil Co., Chicago, Ill.	.....	1,076,098	64,366.41
Pure Oil Co., Chicago, Ill.	.....	293,027	18,507.28
Pure Oil Co., Chicago, Ill.	.....	.....	1,978.67
Pure Oil Co., (suspense), Chicago, Ill.	.....	.....	1,102.70
Pierce, R. H., & Co., Inc., Chicago, Ill.	.....	.....	6,024.12
Pierce Petroleum Corp., Sand Springs	25,550.64	.....	34,549.15
Privett Drilling Co., Maramec	.....	.....	9,717.67
Producers Royalty Corp.,* Tulsa	.....	.....	8,237.12
Producers Oil Co., Tulsa	8,695.74	.....	12,504.16
Producers & Refiners Corp., Independence, Kans.	375,875.00	.....	491,351.85
Producers & Refiners Corp., Independence, Kans.	.....	695,189	24,060.11
Perpetual Royalty Corp.,* St. Louis, Mo.	.....	.....	6,571.19
Peters Petroleum Corp., Tulsa	101,287.47	.....	145,151.62
Peters Petroleum Corp., Tulsa	.....	43,704	2,670.66
Provident Royalties Corp.,* Tulsa	.....	.....	9,997.00
Pine, W. B., Okmulgee	14,421.15	.....	21,758.44
Pine, W. B., Okmulgee	.....	23,123	982.59
Pine, W. B., Okmulgee	.....	76,551	5,575.83
Pine, W. B., Okmulgee	69,915.52	.....	93,909.56
Pine, W. B., Okmulgee	641.16	23	1,176.66
Pine, W. B., Okmulgee	15,745.36	.....	20,866.09
Plymouth Petroleum Co. et al, Okmulgee	4,098.05	.....	5,296.67
Plymouth Petroleum Co. and C. C. Crawford, Okmulgee	3,417.88	.....	4,552.16
Paraffine Oil Co., Houston, Tex.	7,049.15	.....	8,226.32
Peerless Oil & Gas, Indiana, Pa.	.....	.....	9,861.07
Peerless Oil Producing Co., Tulsa	7,409.46	.....	11,914.09
Peerless Oil Producing Co., Tulsa	.....	Gas	730.92
Plains Petroleum Co., Tulsa	7,502.40	.....	10,354.31
Plains Petroleum Co., Tulsa	.....	7,212	555.65
Phoenix Oil Co., Pittsburgh, Pa.	9,870.24	.....	14,541.19
Pioneer Petroleum Co., Tulsa	10,733.92	.....	12,889.27
Pioneer Petroleum Co., Tulsa	.....	9,979	798.36
Paragon Oil Co., Tulsa	3,985.01	.....	5,198.55
Paragon Oil Co., Tulsa	.....	2,082	334.90
Pawnee Oil Producing Co., Tulsa	3,781.24	.....	5,407.20
Phillips, W. G., and J. B. Milam, Chelsea	32,757.66	.....	41,266.06
Phillips Petroleum Corp., Bartlesville	468,107.09	.....	642,470.60
Phillips Petroleum Corp., Bartlesville	.....	Gas	88,534.66
Probst, George C.,* Tulsa	.....	.....	2,326.29
Palmer, S. T.,* Okemah	.....	.....	5,655.96
Peddycoart, R. O.,* County Line, Okla.	.....	.....	6,320.33
Powers, M. F. and Anna I.,* Tulsa	23,738.00	.....	33,312.60
Powers, M. F.,* Tulsa	9,007.00	.....	13,616.76
Pharoah, O. J.,* Henryetta	.....	.....	7,071.04
Pettis, Fred E.,* Los Angeles, Calif.	.....	.....	3,281.06
Perkins & Cullum, Wichita Falls, Tex.	12,431.95	.....	15,383.87
Pandem Oil Corp., Wichita Falls, Tex.	3,970.19	.....	6,199.20
Potts, Mable Dale, and J. R.,* Yale	.....	.....	6,292.04
Pace, George L., Wichita Falls, Tex.	32,239.61	.....	39,041.27
Pinney, F. M., and F. J. Carroll and Bernard Ulrich, Wynona	3,956.04	.....	5,654.72
Priboth, F. F.,* Blackwell	1,891.09	.....	2,968.54
Priboth, Lillie M.,* Blackwell	1,905.11	.....	2,990.66
Ponder-Pomeroy Co., Tulsa	173,591.39	.....	278,337.32
Petty, Mary E.,* Oklahoma City	.....	.....	2,414.76
Pawhuska Oil & Gas, Bartlesville	.....	50,724	7,432.20
Powell, G. K.,* Muskogee	.....	.....	2,133.95
Pulman, P. W.,* San Antonio, Tex.	.....	.....	4,098.21
Prairie Oil & Gas Co., (suspense), Independence, Kan.	.....	.....	219,423.67
Prairie Oil & Gas Co., (suspense), Independence, Kan.	.....	.....	18,935.00
Prairie Oil & Gas Co., (trustee), Independence, Kan.	6,051.09	.....	7,471.72
Prairie Oil & Gas Co., Independence, Kan.	3,200,865.70	.....	4,565,492.48
Prairie Oil & Gas Co., Independence, Kan.	.....	860,405	60,940.15
Prairie Oil & Gas Co., Independence, Kan.	.....	C.H. 4,149,976	214,448.00
Pfile, Charles,* Oklahoma City	.....	.....	2,593.06
Page Oil Syndicate, Tulsa	.....	.....	5,839.19
Penn-Ohio Gas Co., Pittsburgh, Pa.	11,418.57	.....	15,022.66
Pyramid Oil Co., Winchester, Ky.	5,208.48	.....	6,180.49
Q			
Quimby, John, Montebello, Calif.	.....	.....	3,431.92
R			
Red Bank Oil Co., Tulsa	51,566.33	.....	70,610.77
Riverland Co., Tulsa	8,484.92	.....	13,873.56
Ramsey Petroleum Corp., Oklahoma City	105,837.00	.....	115,055.60
Reserve Petroleum Co.,* Tulsa	1,788.40	.....	2,777.82
Reserve Petroleum Co.,* Tulsa	24,926.21	.....	34,443.54
Roberts, Thomas C., Ardmore	3,735.86	.....	5,316.10
Roberts, Thomas C., Ardmore	.....	3,262	326.20
Rockland Oil Co., Ardmore	22,606.43	.....	23,961.94
Reiter-Foster Oil Corp., Tulsa	36,350.68	.....	54,382.55
Reiter-Foster Oil Corp., Tulsa	.....	C.H. Gas	412.06
Reiter-Foster Oil Corp.,* Tulsa	3,244.34	.....	5,204.38
Royalties Trustee Corp.,* Wilmington, Del.	.....	.....	3,535.41
Royalty Corp. of America,* Tulsa	48,179.90	.....	73,909.93
Royalty Corp. of America, Tulsa (paid by Pure Oil Co.)	.....	.....	9,542.53
Royalties Management Corp.,* New York City	.....	.....	21,796.11
Rogers, B. H.,* Holdenville	.....	.....	4,482.92
Rogers, B. H.,* (suspense), Holdenville	.....	.....	20,069.42
Rogers, B. H.,* (suspense), Holdenville	.....	.....	2,995.58
Rogers Oil Co.,* Holdenville	.....	.....	25,660.32
Rogers, Rosa, and Calloway,* Earlsboro	.....	.....	11,782.11
Rogers, Leslie, Tulsa	4,020.75	.....	5,758.79
Rogers, Leslie, Tulsa	.....	6,177	552.36
Reed & Harmon, Nowata	4,893.65	.....	6,176.59
Reed, Frank H.,* Neosho, Mo.	.....	.....	17,135.07
Reed, Isabella S.,* Neosho, Mo.	.....	.....	19,224.16
Reed, Frank H. and Isabella S.,* Neosho, Mo.	O'l	.....	76,232.33
Reed, Frank H. and Isabella S.,* Neosho, Mo.	.....	Gas	1,594.74
Regal Oil & Gas, Tulsa	19,587.46	.....	26,876.78
Reliance Oil Co., Houston, Tex.	4,304.48	.....	4,938.62
Reliance Oil Co. of Oklahoma, Houston, Tex.	4,267.73	.....	6,936.20
Rena Royalty Co.,* Tulsa	9,236.21	.....	14,421.87
Robinson, E. L., Tulsa	4,482.79	.....	5,569.61
Robinson, E. L.,* Tulsa	1,787.17	.....	2,521.69
Robinson, E. L., and Gibson-Zahniser Oil Corp., Tulsa	5,532.54	28,968	10,290.74
Replogle & Johnston,* Oklahoma City	.....	.....	14,931.74
Replogle, Jamie,* Oklahoma City	.....	.....	4,266.65
Replogle, D.,* Oklahoma City	.....	.....	4,724.96

Name and address—	Barrels	M. feet	Amount
Routt, J. S.,* Okmulgee	1,547.85	.....	2,516.39
Ryan Consolidated Petroleum Co., Tulsa	5,325.42	420	7,471.07
Rossiter, Joseph P.,* Okmulgee	.....	.....	2,698.07
Robins, J. W., Fort Worth, Tex.	7,519.97	.....	7,581.18
Roper, H. C.,* Ada	.....	.....	2,837.06
Ralph, B. B.,* Kansas City, Mo.	.....	.....	3,105.50
Ray, Joe,* Chickasha	.....	.....	2,556.42
Ray, Joe, Chickasha	.....	.....	6,848.33
Reade, C. M.,* Mexico, Mo.	.....	.....	5,252.01
Ruzek, Anna,* Enid	.....	.....	2,226.26
Reynolds Oil & Royalty Co., Oklahoma City	14,465.82	3,439	20,248.17
Roth, C. E., Independence, Kans.	3,966.19	.....	5,257.12
Rockwell, J. A.,* Warren, Pa.	3,424.96	.....	5,188.23
Rutz, Jake, Oil Co., Morris	7,072.03	.....	9,124.62
Regan, L. E.,* Shawnee	.....	.....	7,529.81
Rainey, J. W.,* Shawnee	.....	.....	8,344.13
Riverside Oil & Refining Co., Tulsa	5,733.67	.....	7,771.04
Rex Oil & Gas Co., Winchester, Ky.	5,208.48	.....	6,180.49
Rexroat, U. T.,* (guardian), Ardmore	.....	.....	6,514.80
Richardson, Zelta,* Tecumseh	.....	.....	3,113.55
Russell, Helen B., and H. B. Olds, Charles City, Ia.	60,189.99	.....	82,034.74
Russell, Helen B., and H. B. Olds, Charles City, Ia.	.....	22,227	1,353.62
Russell, Helen B., and H. B. Olds,* Charles City, Ia.	.....	.....	3,651.33
S			
Shell Petroleum Corp., St. Louis, Mo.	1,810,903.39	.....	2,640,154.47
Shell Petroleum Corp., St. Louis, Mo.	.....	4,882,069	127,143.02
Shell Petroleum Corp., (suspense), St. Louis, Mo.	.....	.....	10,227.40
Skelly Oil Co., Tulsa	734,781.35	.....	957,209.51
Skelly Oil Co.,* Tulsa	7,777.35	.....	10,622.27
Skelly Oil Co., Tulsa	.....	1,610,807	42,374.97
Selby Oil & Gas, Tulsa	26,595.17	12,083	32,275.42
Selby Oil & Gas,* Tulsa	4,628.79	.....	6,680.62
Sinclair, H. F.,* New York City	.....	.....	8,215.24
Sinclair Oil & Gas, (paid for others), Tulsa	.....	.....	16,063.66
Sinclair Oil & Gas, Tulsa	3,329,390.73	.....	4,771,612.56
Sinclair Oil & Gas, Tulsa	.....	Gas	251,178.33
Shoreline Oil & Gas, Tulsa	27,197.10	.....	38,273.06
Slick, T. B., Clarion, Pa.	350,398.96	.....	500,498.58
Slick, T. B., Clarion, Pa.	.....	7,023	708.61
Slick, T. B.,* Clarion, Pa.	34,955.85	.....	51,109.77
Slick, T. B.,* Clarion, Pa.	.....	55,491	4,450.47
Sun Royalty Co.,* Tulsa	13,040.79	.....	17,947.77
Sun Royalty Co., Tulsa	.....	Gas	401.98
Sun Royalty Co., Tulsa	.....	.....	3,772.47
Sunray Oil Co., Tulsa	35,478.86	.....	48,156.99
Sunray Oil Co., Tulsa	.....	Gas	721.93
Southwest Producing Co., Bristow	.....	183,216	15,030.15
Silurian Oil Co., St. Louis	114,082.60	.....	145,529.92
Silurian Oil Co., St. Louis	.....	Gas	3,449.90
Southwest Gas Utilities Corp. of Oklahoma, Ada	.....	.....	20,243.91
South Bend Oil Co., Tulsa	.....	.....	7,607.69
Southland Royalty Co.,* Ponca City	Oil	.....	62,635.94
Southland Royalty Co., Ponca City	.....	Gas	5,429.32
Standard Royalties of Canada, Inc.,* Toronto, Canada	Oil	.....	114,300.11
Standard Royalties of Canada, Inc., Toronto, Canada	.....	Gas	3,969.14
Sheridan Oil Co., Tulsa	13,732.79	.....	16,892.01
Sheridan Oil Co., Tulsa	.....	Gas	1,940.51
Skelton-Moore Oil Co., Bartlesville	4,283.51	.....	5,413.41
Sterling Oil & Gas, Tulsa	4,358.45	8,528	5,686.64
Signal Oil Co., Tulsa	67,776.65	.....	93,792.46
Sure Oil Corp., Tulsa	4,171.87	.....	5,503.94
Sure Oil Corp., Tulsa	.....	2,692	134.61
Sneed Royalty Co.,* Tulsa	Oil	.....	12,049.83
Sneed Royalty Co.,* Tulsa	.....	Gas	427.85
Savoy Oil Co., Tulsa	6,505.55	.....	7,356.03
Savoy Oil Co., Tulsa	.....	1,664	123.37
St. Germain, R. J.,* Tulsa	.....	.....	4,083.66
Slab Oil Co., Ardmore	9,627.32	.....	16,688.33
Sitterly, Pearl R.,* Cushing	.....	.....	4,976.34
Seneca Royalties Co.,* Oklahoma City	.....	.....	2,729.18
Sarasota Oil Co.,* Ardmore	4,899.88	.....	2,944.84
Sturm Drilling Co., Ardmore	12,879.53	.....	16,376.23
Summers, Mrs. George M.,* Tonkawa	.....	.....	2,515.58
Shields, W. J.,* Fort Worth, Tex.	.....	.....	3,371.83
Shimp, Ira C.,* Blackwell	.....	.....	5,999.49
Shertzer, C. P., Dewey	5,019.24	.....	5,720.36
Spangy, H. J.,* Trousdale	.....	.....	14,728.94
Smelser, Ruus S.,* Mannford	.....	.....	2,220.68
Seay, Delbert,* Waurika	.....	.....	3,710.03
Sands Petroleum Corp., Tulsa	7,031.48	.....	10,313.88
Sporleder, William,* Okemah	2,055.46	.....	3,302.88
Swindler, James A., Muskogee	4,743.93	.....	7,592.39
Shasta Oil Co., Wichita Falls, Tex.	68,566.43	.....	86,472.71
Sanford, Edwin,* Oklahoma City	.....	.....	3,121.90
Seay, Clyde W.,* Oscar	.....	.....	7,933.59
Sowards, Fred and Willard J.,* Stroud	.....	.....	2,247.78
Shirley, Gracie I. and H. L.,* Tulsa	.....	.....	2,815.02
Sharum, B. E.,* Ripley	.....	.....	4,019.29
Stuart, Phil N.,* Shawnee	.....	.....	3,045.52
Shepherd, J. D.,* Shawnee	.....	.....	8,356.17
Schmidt, H. E.,* Columbus, Ohio	.....	.....	6,709.96
Stewart, William E.,* Wellsville, N. Y.	.....	.....	2,383.70
Snedden, George M., Tulsa	31,581.09	.....	45,040.80
Black, Sivalls & Bryson, Inc.,* Bartlesville	3,536.49	.....	4,777.40
Black, Sivalls & Bryson, Inc.,* Bartlesville	1,871.19	.....	2,531.37
Slogan, Mrs. Agnes O.,* Lawton	.....	.....	5,328.21
Slough, E. D.,* Ardmore	.....	.....	2,495.21
Swan, F. P.,* Konawa	.....	.....	2,378.89
Simons, G. A., Okmulgee	.....	.....	9,111.36
Berry, W. E., Stillwater National Bank, administrator, estate of	.....	.....	5,152.35
Sangster, Joe B.,* Earlsboro	.....	.....	3,149.42
Streck, Jennie E.,* Hennessey	.....	.....	3,138.00
Simpson Fell Oil Co., Ardmore	19,028.10	.....	21,825.00
Sherman, Laura,* Tecumseh	.....	.....	3,233.63
Sullivan, M. M.,* Madill	.....	.....	14,403.58
Stamper, Jennie,* Oklahoma City	.....	.....	2,526.12
Stekoll, Harry, Tulsa	12,326.47	.....	16,665.77
Schonwald, Junia,* Oklahoma City	.....	.....	7,438.90
Schonwald, Dave R.,* Oklahoma City	.....	.....	2,887.80
Schonwald, Dave P.,* Oklahoma City	.....	.....	1,818.19
Schonwald, Sophia,* Oklahoma City	.....	.....	4,821.86
Sykes, C. E., Ardmore	.....	.....	3,362.45
Sikes, Louis, Oklahoma City	.....	.....	6,293.76
Baldwin and Sutton, Walters	13,282.51	.....	17,229.28
Sharp, Robert C., Tulsa	4,357.59	.....	6,348.43
Snowden and McSweeney, New York City	.....	.....	29,172.00
Simms Oil Co., Dallas, Tex.	106,364.64	.....	153,149.50
Simms Oil Co., Dallas, Tex.	.....	219,891	4,461.93
Spencer, Alice and T. J., Wewoka	.....	.....	3,327.91
Shaffer, J. C., Oklahoma City	30,914.24	.....	40,413.32
Shaffer, J. C., Oklahoma City	.....	Gas	209.86
Scott, Lucy B.,* Holdenville	.....	.....	2,178.20
Sparks, Harriett W.,* Shawnee	.....	.....	3,751.59
Smith, H. E.,* Rush Springs	.....	.....	2,471.63
Smith, Marie S., Ardmore	5,781.11	.....	6,694.22
Smith, Marie S., Ardmore	.....	91,479	9,151.31
Smith, Will H., Ardmore	3,538.34	.....	3,970.55
Smith, Will H., Ardmore	.....	20,952	1,873.59
Smith, C. R., estate, Ardmore	2,744.60	.....	3,186.00
Smith, C. R., estate, Ardmore	.....	49,352	4,888.36
Smith, Charles R., Jr., Ardmore	4,718.93	.....	5,440.53
Smith, Charles R., Jr., Ardmore	.....	67,372	6,715.71

(Continued on Next Page)

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Old Man Gravity Is Still Going Strong

GRAVITY, the same never-failing force that prevented Columbus from "sliding off" way back in '92, is still going strong as the balancing force that enables the Davis Casinghead Gas Regulator to give such accurate, reliable control of well vacuum.

Thousands of wells are controlled by this method. The list of users includes practically every active oil company.

If the equipment you are using leaves anything to be desired the Davis Casinghead Gas Regulator will put an end to all your troubles.

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Sales Engineers
TULSA LOS ANGELES DALLAS
HOUSTON

Automatic valve makers for over fifty years

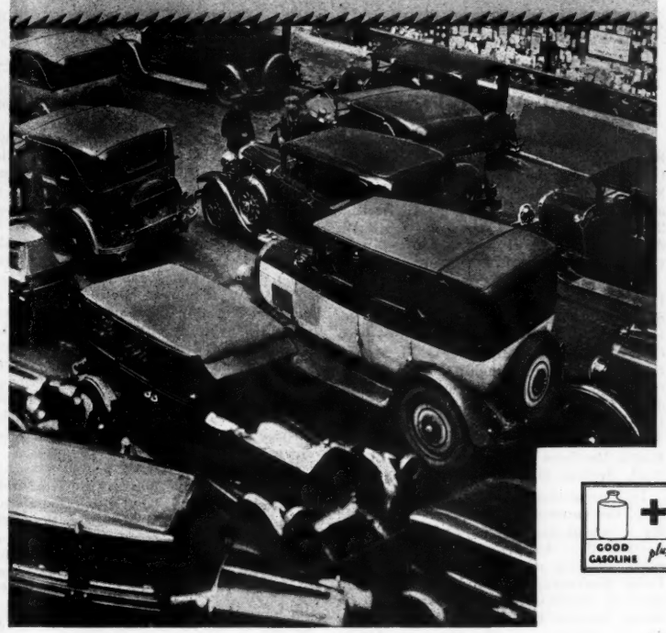
DAVIS VALVE SPECIALTIES

OGJ 5-29 Gray

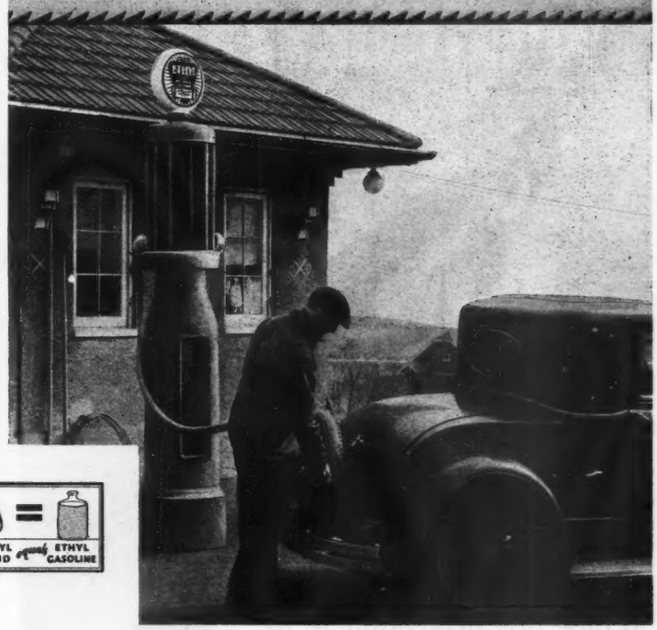
Name and address—	Barrels	M. feet	Amount
Smith, N. Bert,* Oklahoma City	.....	.....	16,334.11
Smith, N. Bert., royalty trust,* Oklahoma City	.....	.....	98,879.05
Smith, C. J.,* Tulsa	.....	.....	7,984.03
Smith, John,* Wetumka	.....	.....	2,083.17
Selby, J. L., Muskogee	.....	.....	6,691.64
Shaffer, C. B., Chicago, Ill.	20,776.92	.....	24,646.50
Schermerhorn, J. B., Inc., Minneapolis, Minn.	60,806.50	.....	75,366.35
Schermerhorn, J. B., Inc.,* Minneapolis, Minn.	2,870.84	.....	3,685.80
Schermerhorn Oil Co., Minneapolis, Minn.	4,252.81	.....	9,015.30
Schermerhorn-Young, Ardmore, Okla.	1,108.63	.....	1,474.20
Schermerhorn-Ardmore Co., Minneapolis, Minn.	79,945.01	Gas	89,943.76
Stewart, Clyde,* McAlester	.....	.....	2,042.36
T			
Transcontinental Oil Co., Tulsa	93,207.09	.....	120,397.32
Transcontinental Oil Co., Tulsa	.....	259,549	18,169.08
The Texas Company, Tulsa	1,090,191.14	.....	1,508,526.06
The Texas Company, Tulsa	.....	Gas	109,122.82
The Texas Company, production department,* Tulsa	.....	.....	9,631.96
The Texas Company, for Frank H. Reed	7,181.89	.....	10,245.78
Texas Pacific Coal & Oil Co., Thurber, Tex.	48,977.97	.....	39,340.83
Tidal Oil Co., Tulsa	423,276.27	.....	549,441.77
Tidal Oil Co., Tulsa	.....	Gas	24,221.35
Tidal Oil Co.,* Tulsa	7,964.50	.....	10,027.66
Tidal Oil Co.,* Tulsa	.....	Gas	592.00
Tidal Oil Co., for Cherokee-Warren Oil & Gas Co.	6,455.06	.....	7,184.08
Twin State Oil Co., Tulsa	387,868.16	.....	392,844.76
Twin State Oil Co., Tulsa	.....	Gas	18,854.62
Twin State Oil Co.,* Tulsa	4,111.85	.....	7,131.22
Turman Oil Co., Tulsa	128,644.92	.....	190,960.10
Turman Oil Co., Tulsa	.....	190,581	7,180.89
Turman Oil Co., Tulsa	467.83	.....	665.98
Tarter, Daniel,* Tecumseh	.....	.....	2,959.27
Townsend, M. T.,* Ada	.....	.....	4,220.79
Texworth Securities Corp.,* Brooklyn, N. Y.	.....	.....	2,853.24
Thornton, David P., Muskogee	.....	.....	2,568.00
Travis, Sarah Leola,* Dover	.....	.....	3,552.93
Tull, Vida M.,* Oklahoma City	5,611.85	.....	7,764.85
Tully, Martha Nadene, now Andrews,* Muskogee	.....	.....	2,020.60
Talley, T. F., and Cynthia,* Sulphur	.....	.....	2,956.05
Tawes, A. W.,* Crisfield, Md.	.....	.....	3,720.90
Truby, M. L., Royalty Corp.,* Independence Kans.	4,179.67	.....	2,727.96
Thlocco Oil Co., Tulsa	8,569.47	.....	12,131.04
Thomas, G. M.,* Norman	.....	.....	2,331.86
Thomas, Sidney O.,* Oklahoma City	.....	.....	8,792.98
Thompson, S. F.,* Okemah	.....	.....	3,646.98
Taylor, Dr. Joseph C.,* New York City	.....	.....	4,766.67
Thompson, R. B.,* Tulsa	3,715.16	.....	5,092.05
Thompson, William,* Tulsa	3,753.26	.....	5,140.67
Trosper Park royalty owners, First National Bank & Trust Co., depository for, Oklahoma City	48,694.41	56,990	70,276.87
Tully, Martha Nadine, now Andrews,* Muskogee	.....	.....	2,020.60
U			
United Royalty Co.,* Tulsa	.....	.....	3,280.52
U. S. Royalties Corp.,* New York City	6,213.59	.....	8,988.02
U. S. Royalties Corp.,* New York City	.....	Gas	205.82
Umburn, Gillia, Weleetka	.....	.....	7,090.32
United Eight Oil Trust, H. B. Fell, receiver for, Ardmore	5,641.38	.....	7,546.60
Urbansky, Virgie and Joseph,* Oklahoma City	.....	.....	2,019.80
Union Oil & Mining Co., Tulsa	4,537.12	.....	6,558.99
V			
Vacuum Oil Co., Houston, Tex.	108,853.56	.....	166,085.79
Vacuum Oil Co., Houston, Tex.	.....	313,427	5,559.85
Varnum, W. F.,* Shawnee	10,226.20	.....	15,048.04
Varnum, Eliza. P.,* Shawnee	.....	.....	6,228.11
Varnum, Lucille,* Shawnee	.....	.....	1,815.66
Vance, Mary E.,* Tulsa	1,880.02	.....	2,894.97
Vance, S. E.,* Tulsa	1,881.19	.....	3,274.54
Vassar, Amanda,* Ponca City	.....	.....	2,660.93
Valley-Osage Oil Co., Tulsa	16,791.20	.....	21,055.85
Venmex Oil Co. and Keystone Production Co., Wichita Falls, Tex.	97,439.84	161,176	123,054.62
Viersen, A. A.,* Okmulgee	19,006.78	.....	28,295.03
Viersen Oil & Gas,* Okmulgee	13,784.59	.....	22,344.07
Viersen, Sam K.,* Okmulgee	3,466.22	.....	5,172.06
Voorhees, Leon G.,* Oklahoma City	.....	.....	10,442.68
VanGraafeiland, C. P.,* St. Louis, Mo.	.....	.....	2,132.13
Vernon Oil & Gas Co., Blackwell	.....	.....	8,125.16
W			
Wiser Oil Co., Sistersville, W. Va.	85,262.15	.....	101,749.61
White, Walter,* Shawnee	.....	.....	2,528.85
White Eagle Oil & Ref., Wichita, Kans.	16,765.68	9,088	27,321.11
Wentz, L. H., Oil Division, Ponca City	142,548.27	212,389	222,914.18
Warner-Caldwell Oil Co., Titusville, Pa.	19,295.05	.....	22,919.15
Warner-Caldwell Oil Co., Titusville, Pa.	.....	Gas	892.36
Wellsville Oil Co., Wellsville, N. Y.	9,563.22	.....	11,691.70
Washington Royalties Co.,* Tulsa	9,628.83	.....	13,332.75
Washington Royalties Co.,* Tulsa	.....	Gas	3,940.91
Wofford Drilling Co., Inc., Tulsa	9,419.43	.....	12,668.97
Wangerien, C. W.,* Okmulgee	.....	.....	2,714.77
Whitehill, H. J., and H. C. Weible, Tulsa	10,727.66	.....	13,503.08
Whitehill Oil Corp., Tulsa	1,549.06	.....	2,086.82
Whitehill Oil Corp., Tulsa	14,076.63	.....	17,357.90
Western-Okla. Gas Co., Fort Smith, Ark.	.....	122.454	12,245.40
Westerly Oil Co., Bartlesville	4,017.26	.....	5,668.13
Westerly Oil Co., Bartlesville	.....	C.H. Gas	30.65
Westland Oil Corp., Tulsa	27,183.68	.....	37,177.61
Westland Oil Corp., Tulsa	.....	53,639	1,578.35
Western States Royalty Co.,* Great Falls, Mont.	.....	.....	2,049.36
Wilfelt, Abraham and Sadie,* Shawnee	.....	.....	15,356.59
Watchorn Oil & Gas, Oklahoma City	7,974.14	.....	11,782.19
Warren, Mrs. Margaret,* Oklahoma City	.....	.....	2,747.12
Warren, Charlie R.,* Oklahoma City	3,726.05	.....	4,868.56
Wittmer Oil & Gas Properties, Pittsburgh, Pa.	4,176.17	7,701	6,250.01
Wolverine Petroleum Corp., St. Louis, Mo.	157,117.11	.....	191,372.96
Wolverine Petroleum Corp., St. Louis, Mo.	.....	Gas	17,063.34
Westervelt & Noble Oil & Gas, Oklahoma City	.....	87,069	8,707.02
Worley, H. F., & Co.,* Tulsa	.....	.....	3,203.68
Wattermire, E. J.,* Perry	.....	.....	2,496.16
Westheimer & Daube, Ardmore	120,072.24	.....	148,836.66
Westheimer & Daube, Ardmore	.....	Gas	2,760.49
Westheimer & Daube,* Ardmore	16,990.28	.....	18,632.24
Westheimer & Daube,* Ardmore	.....	Gas	1,015.05
Wigton & Long Co., Okmulgee	.....	.....	5,052.35
Weeks, Margaret S., Ardmore	4,719.03	.....	5,440.60
Ward, B. F., executor,* Wilson, Okla.	.....	.....	4,629.60
Weeks, Margaret S., Ardmore	.....	Gas	6,715.54
Wright, Archie K.,* Muskogee	.....	.....	2,018.53
Winkler & McQueen, Inc., Duncan	7,795.85	.....	9,974.48
Warren, Chester L.,* Oklahoma City	.....	.....	9,053.93
Walsh Oil Co., Tulsa	5,428.95	.....	6,739.39
Welsh, Carrie B.,* Blackwell	1,431.94	.....	2,148.22
Welsh, J. L.,* Blackwell	1,431.88	.....	2,161.55
Woods, W. E.,* Cox City	.....	.....	2,463.46
Wood Oil Co., Tulsa	.....	.....	13,630.30
Wood-Gilbert-Wood Syndicate No. 1, Oklahoma City	6,475.85	.....	10,384.63
Wood, Roy,* Oklahoma City	.....	.....	12,375.37
Williamson, Effie,* Oklahoma City	.....	.....	2,329.86

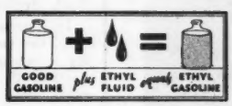
(Continued on Next Page)

You can't *avoid* TRAFFIC



—but you *can* use ETHYL





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DRIVING in heavy traffic is easier with Ethyl Gasoline in your tank.

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Ethyl means easier handling and better control because it is good gasoline *plus*—quality gasoline of high anti-knock rating. It gives added power, pick-up, smoothness, to *any* car. And the high-compression cars require a fuel of Ethyl's anti-knock standard to do their best.

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Walker, C. C.,* Okemah	.....	.....	5,070.03
Walker, W. Leslie,* Montclair, N. J.	.....	.....	2,159.63
Walker, E. A.,* Oklahoma City	15,054.41	14,673	18,922.64
Wilson, Irvin L.,* Wewoka	.....	.....	9,288.99
Willmott, John H., San Diego, Calif.	.....	.....	20,106.60
Wright, J. H., estate, Sapulpa	16,150.60	.....	21,658.53
Wright, J. H., estate, Sapulpa	.....	Gas	1,085.08
Wright, James,* Bristow	.....	.....	3,516.86
Wilcox, H. F., Oil & Gas,* Tulsa	.....	.....	1,308.66
Wilcox, H. F., Oil & Gas, Tulsa	189,478.75	.....	262,149.18
Wilcox, W. S.,* Garber	.....	.....	2,123.42
Wheeler, John W.,* Oklahoma City	.....	.....	22,351.43
Wheeler, G. L.,* Oklahoma City	.....	.....	4,644.27
Wallace, W. L.,* Shawnee	.....	.....	2,346.46
Wallace, J. E., Okmulgee	.....	.....	10,653.30
Winona Oil Co. of Delaware, Tulsa	35,794.46	.....	45,895.23
Winona Oil Co. of Delware, Tulsa	.....	Gas	5,805.35
Wilson, Benton,* Greenfield, Mo.	.....	.....	4,157.52
Wise & Jackson, Tulsa	.....	.....	3,166.92
Wise, Jackson & Markham, Tulsa	.....	.....	2,151.73
Wise, Jackson & Snedden, Tulsa	.....	.....	960.98
Y			
York Petroleum Co., Muskogee	23,327.92	.....	32,708.45
York Petroleum Co.,* Muskogee	.....	Gas	873.27
Young, J. Wright,* Broken Arrow	1,590.88	.....	2,107.66
Young, L. W.,* Oklahoma City	.....	.....	7,397.02
Youts, E. H.,* Shawnee	.....	.....	3,401.67
Z			
Zimmerman, L. W., Chicago, Ill.	29,156.08	8,786	30,307.82
Zachery, Dolly,* Clearview	.....	.....	2,045.50
Zimmerman, Dora,* Oklahoma City	.....	.....	3,417.20

CENTRAL WEST FIELDS

(Continued from Page 71)

Salisbury Township, the Ohio Fuel Gas Co. is drilling No. 1-5,084 D. T. Guckler, Section 36, and J. W. Stewart and others are drilling No. 1 S. M. Russell, Section 21. Ohio Fuel Gas Co.'s No. 1-5,013 W. A. Deye, Section 19, Scipo Township, is reported dry from 977-85 feet.

In Vinton County, Knox Township, H. C. Farmer and others' No. 6 J. W. Stanley, Section 4, is a gas well in the Berea from 1,103-07 feet. Co-operative Oil Co. made location on the J. H. Moore, Section 10, same township. Athey Drilling Co. is starting a test on the Carbondale Oil Co. tract in fractional Section 12, Brown Township, same county.

In Lawrence County, Perry Township, Ralph Brothers are drilling on the T. A. Null, Section 20.

In Tuscarawas County, Oxford Township, the Gordon Oil Co. made a location for a second test on the Phillip Lameck, Section 21. In Washington Township, same company made a location for No. 3 Dolly Huffman, Section 35. Same company is drilling No. 1 Lovereign Meek farm, Section 6. Hopewell Oil & Gas Co. is drilling on the Stewart Asher, Section 18, and the Gas Producing Co. of Ohio is drilling No. 3 C. H. Smetz, Lot 35, same township.

Stark County

In Stark County, Lawrence Township, F. A. Brendall and others found a dry hole in No. 3 on the Charles Smith farm, Section 3. Capitol Drilling Co. made a location on the C. H. and M. E. Faulson farm. Penn Oil & Gas Co. is drilling on the William Swigart, Section 2, also No. 1 on the Raymond L. Baughman, Section 3, same township.

In Fairfield County, Pleasants Township, the City Natural Gas Works made a location for No. 4 Henry Hartman, Section 23. In Richland Township, Perry Sturm and others made a location for a second test on the Jeff and George Shaw farm, Section 32.

In Guernsey County, Wheeling Township, East Ohio Gas Co.'s No. 2 John A. Baird, Section 11, produced initially 45 bbls. from the Niagara lime at 3,542 feet. Ohio Fuel Gas Co. has a gas well in No. 2-5,072 Loren C. Stocker, Section 9, at from 3,459-3,630 feet. No. 3-1,414, same farm, is drilling deeper. J. T. Watson and others have a salt water well on the W. G. Walters, Section 32, Liberty Township, same county, in the Niagara formation from 3,486-92 feet.

In Belmont County, Somerset Township, W. C. McBride Engineering Co.'s second test on the Howell-Dament, Section 1, is reported good for 75 bbls. in the Keener sand at 1,306 feet. Clyde Worstell has a very light gas well on the W. J. Clark, Section 22, Richland Township, same county, from 1,695-1,705 feet. Peters & Patterson are drilling on the W. C. Wheatley, Sections 27 and 28.

In Pike County, Goddard and others are drilling on the Ryland Creel farm, Section 7.

In Morgan County, Marion Township, Ohio Fuel Gas Co. has a gas well in No. 1-5,098 Hiram Hart farm, and Bowman Oil & Gas Co. a gas well in No. 4 C. M. Huffman, Section 32, in the Berea sand at 1,623 feet. Same company is drilling on the Roy Swab, Section 35, same township. In Penn Township, Ohio Fuel Gas Co. has a gas well in No. 2-5,027 A. W. Embree, Section 16, and is drilling No. 3-5,106, same farm. Penn Ohio Gas Co. is starting a test on the William and Jennie Reed, same section. In Union Township, the Malta Oil & Gas Co. has a gas well in No. 61 on the John W. Davis, Section 24, and the Buck Run Oil & Gas Co. is drilling on the George H. Putnam, Section 24, same township.

INDIANA

Only two completions are reported from the Indiana Field, Charles C. Taliaferro, Jr.'s No. 5 well, 625 feet from the north line and 425 feet from the east line of the Mary McAtee, SW, Location 146, Clay Township, Pike County, which produced an initial of 35 bbls. from 1,009-15 feet, there being 6 feet of sand, and C. E. Wolmer's second test on the J. M. Thomas, SW Section 19, Washington Township, same county. The well is in the southeast corner of the lease and was dry at 1,152 feet.

There is a revival in interest in the Sioso Pool, about 6 miles east of that pool, and approximately 18 miles south of Terre Haute. Jim Thomas interested with James C. Ellis in the Kentucky Field, and the Dupo Field in western Illinois has been checking coal core drill records and geological data on the big uplift where drilling is to be done covering an area 2 miles wide and 5 miles long. Preparations were made for several tests to be started with standard rigs, as the depths vary from 2,100 up to 2,500 feet. Oil in this territory is of very high gravity, around 48, and takes Illinois prices.

Jim Thomas is enthusiastic over the Yeager structure and looks for large producers. Yeager, Thomas, James C. Ellis, of Owensboro, Ky., Allied Oil Corp. of Chicago, and others will be identified with the preliminary development work in Vigo and Sullivan Counties. Jim Thomas recently purchased the unique old oil well located in the heart of the business district of Terre Haute. The purchase included the real estate which includes a three-story hotel known as the Central Hotel, located on Ninth Street, a pipe line and railway spur with loading accommodations. The old well will be cleaned out and drilled deeper, although at the present time the 40-year-old pumper is flowing at the rate of a barrel daily. There is one of two wells drilled in Terre Haute in 1890 by the city in a hunt for artesian water. One of the wells was closed and was a nice oil well when plugged and before plugging made its owner wealthy.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 44)

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6W ..... Fishing 5,580 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6W.... Shut down 100 ft.
J. M. Henry et al's No. 1 Abraham, SE cor. NW Sec. 4-5-8W ..... Rig.

GRANT COUNTY

Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4W.... Drlg. 5,010 ft.
Cowden et al's No. 2 Vollmer, CEL NE SW Sec. 22-25-4W. Shut down 5,640 ft.
Olstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3W..... Drlg. 5,285 ft.

GARVIN COUNTY

Nelson et al's No. 1 Strickland, NE SW Sec. 10-4-3 .... Shut down 2,510 ft.

GREER COUNTY

I. T. I. O. et al's No. 1 fee, C SW NE Sec. 17-6-24W..... Fishing 2,286 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24W ..... Shut down 1,510 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26W... Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-25-20W..... Drlg. 4,390 ft.
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24W ..... Rigging up standard tools 8,580 ft.

HASKELL COUNTY

Mid-Western's No. 1 Polster, C NE SE Sec. 33-10-22..... Drlg. 2,640 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e..... Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e.... Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e.. Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11..... Drlg. 700 ft.
Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12..... 1,000,000 ft. gas 2,284 ft.; total depth 2,815 ft.; drlg. 3,423 ft.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10..... Drlg. 3,200 ft.

KAY COUNTY

Alco Royalty Co.'s No. 1 Wolf, SE SW SE Sec. 34-26-2W.. Drlg. 770 ft.
Waggoner Pet. Co.'s No. 1 Hinkle, C SW NW NW Sec. 3-26-3 ..... O.W.D.; total depth 2,430 ft.; fishing 3,508 ft.
Blankenship Petroleum Co.'s No. 1 Hansen, SW NW SW Sec. 17-27-2 ..... Drlg. 1,790 ft.

KINGFISHER COUNTY

Superior Oil Co.'s No. 1 Story, SE cor. Sec. 25-19-5w..... Drlg. 6,500 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w..... Shut down 6,015 ft.

KIOWA COUNTY

Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w. Shut down 1,525 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24... Total depth 5,440 ft.; 15,000,000 ft. gas; total depth 5,488 ft.

LATTIMER COUNTY

Limestone Oil & Gas Co.'s No. 1 Murray, NE cor. Sec. 25-5-18 ..... Drlg. 200 ft.
Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e ..... Drlg. 3,030 ft.

LINCOLN COUNTY

Turman Oil Co.'s No. 1 Knox, NE SW Sec. 28-17-2 ..... Location.
Atlantic Oil Prod. Co.'s No. 1 Parker, SE NW Sec. 5-14-6 ..... Location.
Magnolia Pet. Co.'s No. 1 Winship, NE SW Sec. 2-13-4... Rig.
Tom Slick Oil Co.'s No. 1 Hammer, SE NW NW Sec. 35-16-2 ..... Drlg. 4,985 ft.

LOGAN COUNTY

Prairie and Slick's No. 1 Morgan, NW NE Sec. 33-16-1w ..... Drlg. 3,950 ft.
Eason Oil Co.'s No. 1 Young, C SW NE SW Sec. 34-17-4w. Rig.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w.. Shut down 3,970 ft.

McINTOSH COUNTY

T. C. Young's No. 1 Derrison, Sec. 3-12-15..... Fishing 2,325 ft.
Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MURRAY COUNTY

Chieftain Royalty Corp.'s No. 1 Hendrix, SW SE NW Sec. 27-2-2 ..... Shut down 900 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19.... Shut down 1,011 ft.

NOBLE COUNTY

Weaver & Craigin's No. 1 Frederick, C SW NE Sec. 4-24-1w ..... Drlg. 1,330 ft.
Gypsy Oil Co.'s No. 1 Bergstrom, SE NE Sec. 28-22-1w.. Drlg. 4,875 ft.

OKFUSKEE COUNTY

Flynn & Morgan's No. 1 Burton, NE SW SE Sec. 14-13-9.. Drlg. 2,540 ft.
Irwin et al's No. 1 Allen, SE SW NE Sec. 15-13-9..... Fishing 3,635 ft.
Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9..... Shut down 2,795 ft.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10.. Shut down 3,661 ft.

OKLAHOMA COUNTY

Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor. Sec. 32-14-3w ..... Rig.
Prairie and Slick's No. 1 Dill, SE NW Sec. 17-13-3w..... Drlg. 5,060 ft.
Cromwell-Franklin's No. 2 Thompson, SW NE Sec. 15-12-3w ..... Drlg. 4,409 ft.
Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w..... Fishing 5,327 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w ..... Rigging up standard tools 6,020 ft.
Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w ..... Drlg. 6,325 ft.
Ryan Consolidated's No. 1 Lawton, NE NW Sec. 3-11-2w.. Landing casing 6,558 ft.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w ..... T. D. 6,971 ft.; water; plugging back 6,871 ft.; testing.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w ..... Top checkerboard 5,400 ft.; drlg. 6,360 ft.

OSAGE COUNTY

Western American Oil Co.'s No. 1, NW SE Sec. 28-28-6.. Drlg. 175 ft.
Peters Petroleum Co.'s No. 1, SW cor. NE Sec. 5-22-8.... Shut down 3,100 ft.
Kay County Gas' No. 1, C N half NE Sec. 28-24-4..... Abandoned 3,920-60 ft.; hole full water.
Continental Oil Co.'s No. 1, NW SE SE Sec. 24-24-5..... Abandoned 3,549 ft.

PAWNEE COUNTY

Flynn & Morgan's No. 1 Jones, SW NE Sec. 22-20-5..... Shut down 50 ft.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 .. Rig.

PITTSBURG COUNTY

Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e ..... Fishing 3,975 ft.
30-8-4 ..... Drlg. 4,468-80 ft.; 225 bbls.; comp.

ROGER MILLS COUNTY

Buey & Stone's No. 1 Williams, C SW Sec. 23-12-24w.... Shut down 2,245 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w..... Shut down 2,905 ft.

SEMINOLE COUNTY

Pure Oil Co.'s No. 1 Shaffer Ashby, SE NE Sec. 22-7-5 .. Rig.
T. Adkins et al's No. 1 McGilbray, SE NE Sec. 4-8-8..... Drlg. 1,500 ft.
Magnolia and Twin State Oil Co.'s No. 1 Harns, SW NE NE Sec. 8-5-6 ..... Drlg. 3,140 ft.
Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5..... Location.

WASHITA COUNTY

Southern Inv. Co.'s No. 1 Musie, NW cor. Sec. 10-9-20W.. Shut down 280 ft.

WOODS COUNTY

Peerless O. & G. Co.'s No. 1 Crowell, C NW NE Sec. 22-28-16w ..... Drlg. 6,045 ft.
Gypsy-Prairie et al's No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Shut down 6,104 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w ..... Shut down 6,790 ft.

FAST'S Self-Aligning COUPLING

"Let's Solve This Coupling Problem"

The entire assembly rotates as a single unit, misalignment being taken up between the lubricated faces of the gear teeth.

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WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas et al's No. 1 Wilbur, NE cor. NW Sec. 22-23-17w ..... Drlg. 6,840 ft.
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

OKLAHOMA PANHANDLE

CIMARRON COUNTY

Magnolia's No. 1 School Land, C SW NE Sec. 21-5-5.... Drlg. 100 ft.

TEXAS COUNTY

Palo Alto Oil Co.'s No. 1 Graves, NE SW SW Sec. 23-2-18e ..... Spudded; shut down.
Argus Prod. Co.'s No. 1 Ralston, C SW Sec. 23-6n-14e.... Rig.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Bryant-Croxton's No. 1 Mason, NW SE NW Sec. 4-1s-14.. Drlg. 1,580 ft.
Brookshire's No. 1 Guinn, NW cor. Sec. 18-3s-10..... Shut down 100 ft.

BRYAN COUNTY

Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... Drlg. 400 ft.
Johnson et al's No. 1 Ussery, SE SW SE Sec. 14-6s-7e... Shut down 385 ft.
Slab Oil Co.'s No. 1 Ryle, NW SE SE Sec. 27-6s-7..... Shut down 1,350 ft.
Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 265 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Fishing 2,580 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6s-19e ..... Shut down 1,346 ft.

COMANCHE COUNTY

Pelwin Oil Co.'s No. 1 Tafepirdy, C NW NE NE Sec. 5-1s-9w ..... Rig.

COTTON COUNTY

Empire O. & R. Co.'s No. 1 Chambers, NW SE Sec. 8-3s-9w ..... Drlg. 4,432 ft.

JOHNSTON COUNTY

N. A. Neff's No. 1 Chapman, C SW NW Sec. 20-4s-5..... Location.

LOVE COUNTY

Hobbs et al's No. 1 Roberts, NE cor. SW Sec. 20-6s-3w... Drlg. 1,520 ft.
Gilcrease Oil's No. 1 Burkhart, NE NW Sec. 13-6s-1..... Rig.

MARSHALL COUNTY

Wheeler et al's No. 1 Taylor, NE NW NW Sec. 8-7s-6e.. Drlg. 220 ft.
Aker's et al's No. 1 Spicer, SW SE SE, Sec. 33-5s-7e..... Rig.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21.. ..... Shut down 2,287 ft.

STEPHENS COUNTY

C. W. Willis' No. 1 Fair, SE SW SE Sec. 33-1-8w ..... Drlg. 1,800 ft.
R. Southard's No. 1 McKinney, NE cor. Sec. 25-1-8n..... Rig.
Wirt Franklin Petroleum Corp.'s No. 1 McPhail, NW SE Sec. 1-2s-7w ..... Drlg. 4,152 ft.

TILLMAN COUNTY

Bridwell's No. 1 Pan-te-chee, NE SE Sec. 4-4s-16w..... Shut down 835 ft.
Flake's No. 1 Barba, NE SE NE SE Sec. 19-1s-16w..... Shut down 1,185 ft.
Allen Brothers' No. 1 Howell, SW NE Sec. 13-1-17w..... Shut down 1,040 ft.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 47)

E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1..... Shut down 1,768 ft.

DOUGLAS COUNTY

Steinbuckel's No. 1 Unknown, SW NE NW Sec. 34-14-21.. Drlg. 1,000 ft.
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17.... Shut down 1,800 ft.

EDWARDS COUNTY

Dixie and Amerada's No. 1 McCarty, SW cor. Sec. 22-25-17w ..... Water 4,647-90 ft.; shut down 4,909 ft.

ELLIS COUNTY

Central Commercial Oil Co.'s No. 1 Helms, SE cor. NE Sec. 2-12-20w ..... Drlg. 1,490 ft.
Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w.. Shut down 1,290 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w..... Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Drlg. 3,357 ft.

FORD COUNTY

McNabb et al's No. 1 Fowler, C SE Sec. 26-27-22w..... Shut down 400 ft.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w..... Shut down 2,250 ft.

GOVE COUNTY

Valerius & Baucher Oil Co.'s No. 1 Todd, NW cor. Sec. 24-13-27w ..... Rig.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w. Shut down 4,340 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Drlg. 2,790 ft.

GRANT COUNTY

McKenna et al's No. 1 Sullivan, NE cor. Sec. 12-29-38w.. Spudding.

GREENWOOD COUNTY

C. L. Mahan's No. 1 Binns, SE NW Sec. 23-27-11..... Drlg. 1,000 ft.
John Harwood's No. 1 Good, C SW NW NE Sec. 36-25-9 ..... Abandoned 2,149-52 ft.; hole full water.
Mallory's No. 1 Denchfield, SE NW Sec. 12-27-9..... Shut down 660 ft.
Bundy, Smith & O'Neil's No. 1 Ford, NE NW Sec. 28-25-13 ..... Shut down 50 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12... Drlg. 1,820 ft.

HARPER COUNTY

Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w..... Shut down 1,830 ft.

HARVEY COUNTY

Gypsy Oil Co.'s No. 1 Hege, SE NW SE Sec. 13-22-2w.... Drlg. 3,035 ft.
Gypsy Oil Co.'s No. 1 Shine, SE SW Sec. 26-22-3w..... Drlg. 3,443 ft.

KIOWA COUNTY

Phillips-Prairie's No. 1 Bean, NE SE Sec. 10-30-17w..... Drlg. 285 ft.
McKenna et al's No. 1 Ralson, C NE Sec. 14-28-20w..... Rig.

LINN COUNTY

Ferguson & Hiatt's No. 1 Carpie, NE SE SW Sec. 22-21-22 ..... Rig.

LYONS COUNTY

Aladdin & Phillips' No. 1 Ratcliff, SW cor. Sec. 29-20-10. Abandoned 2,448-73 ft.; hole full water.

MARION CONTY

Empire Oil & Ref. Co.'s No. 1 Hiebert, SE SW SE Sec. 20-20-2 ..... Rig.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5..... Rig.

MARSHALL COUNTY

Swicker & Sincox's No. 1 Remple, C N half NW Sec. 22-4-9 ..... Shut down 1,000 ft.
Brazier et al's No. 1 Runkel, SE NW Sec. 13-2-6 ..... Rig.

McPHERSON COUNTY

Simmons & Canary's No. 1 Bishop, NW SW Sec. 15-18-1w ..... Location.
Harry Skelly et al's No. 1 Neufeldt, SE NE Sec. 19-21-3w ..... Rig.
Milmac's No. 1 Decker, NW cor. Sec. 11-20-3w..... Fishing 2,960 ft.

MIAMI COUNTY

Clark's No. 1 Vaughn, SE SW Sec. 28-17-22w..... Drlg. 980 ft.

MORTON COUNTY

Argus Prod. Co.'s No. 1 Garner, C SE Sec. 18-33-39w ... Location.
Argus Prod. Co.'s No. 1 Dreibelbis, C NE Sec. 9-34-39w... Rig.
Argus Prod. Co.'s No. 1 Morgan, C NW Sec. 8-33-39w .... Location.
Argus Prod. Co.'s No. 1 Hayward, C NW Sec. 31-33-39w.. Rig.
Argus Prod. Co.'s No. 1 Little, C SE Sec. 24-34-40w..... Rig.
Argus Prod. Co.'s No. 1 Watson, C NE Sec. 27-34-40w..... Rig.
Argus Prod. Co.'s No. 1 Mangle, C SW Sec. 6-34-39w..... Rig.
Argus Prod. Co.'s No. 1 Thompson, C SW, Sec. 7-34-39w. Rig.
Argus Prod. Co.'s No. 1 Rolla State Bank, C NW Sec. 8-34-39w ..... Location.

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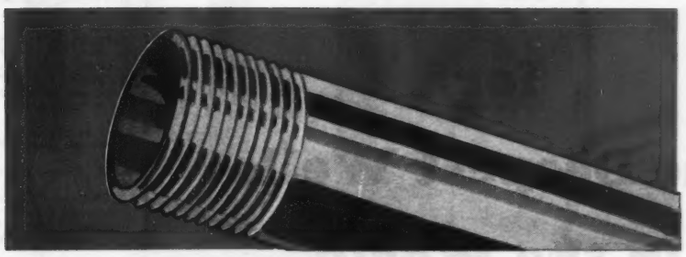

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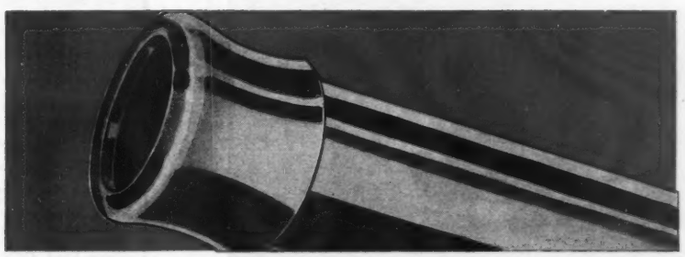

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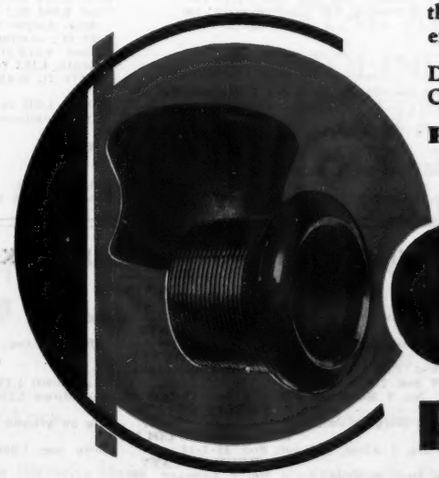

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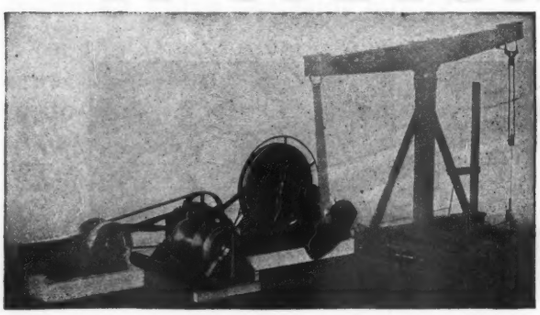

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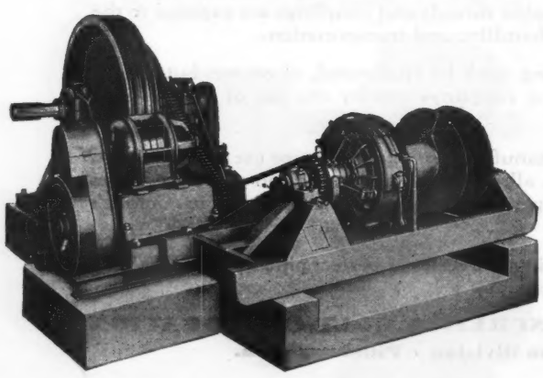

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Argus Prod. Co.'s No. 1 Hayward, C SW Sec. 9-34-39w...Drlg. 1,250 ft.
Argus Prod. Co.'s No. 1 Thompson, C NW Sec. 18-34-39w..Location.
Argus Prod. Co.'s No. 1 Darth, C NE Sec. 20-34-39w.....Rig.
Argus Prod. Co.'s No. 1 Haws, C SW Sec. 31-32-39w.....Location.
Argus Prod. Co.'s No. 2 Armstrong, C SW Sec. 4-34-39w..Drlg. 500 ft.
Argus Prod. Co.'s No. 1 Hayward, C SW Sec. 9-34-39w....Rig.
Argus Prod. Co.'s No. 1 Dixon, C SE Sec. 18-34-39w ....Drlg. 2,000 ft.
Argus Prod. Co.'s No. 1 Chambers, C NW Sec. 25-32-40w.Rig.
Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-34-43w .....Drlg. 580 ft.
Argus Prod. Co.'s No. 1 Low, C SE Sec. 16-33-40w.....Rig on ground.

MORRIS COUNTY

Henderson et al's No. 1 Seisman, SW SE Sec. 24-16-9.....Rig.
Urschell et al's No. 1 Scott, NE NW Sec. 6-16-6.....Shut down 2,115 ft.

PAWNEE COUNTY

Skelly Oil Co.'s No. 1 Milhouse, C SE Sec. 34-23-17w.....Drlg. 2,990 ft.

PRATT COUNTY

Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w .....Drlg. 3,543 ft.

RENO COUNTY

Phillips Pet. Co. and Tom Palmer's No. 1 Harsch, NE SE Sec. 14-26-5w .....Rig.
United Pet. Co.'s No. 1 Houston, NW cor. Sec. 4-22-10w..Rig.
C. A. Cheney and M. M. Valerius' No. 1 Stevens, C NE SE NE Sec. 6-26-7w .....Shut down 2,950 ft.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w.....Shut down 4,076-84 ft.; water.

RICE COUNTY

McPherson and Shell's No. 1 Jennings, NE SW NW Sec. 29-18-6w .....Rig.
Miller & Brown's No. 1 Schartz, Sec. 14-20-10w.....Spudding.
Hoffner, Lee & Shell's No. 1 Slad Farm Corp., C SW Sec. 33-19-6w .....Rig.
Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w.....Drlg. 330 ft.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w.....Shut down 4,003 ft.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w.....Shut down 3,493-98 ft.; water.
McCulloch et al's No. 1 Williams, C NE Sec. 35-20-8w...Shut down 2,790 ft.

RILEY COUNTY

Grey et al's No. 1 Smith, NE SE Sec. 30-6-6.....Shut down 1,970 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e...Shut down 2,245 ft.

ROOKS COUNTY

A. H. Kruger's No. 1 Stein, NW SE SW Sec. 12-9-16w ...Shut down 570 ft.

RUSH COUNTY

McPherson Gas Co.'s No. 1 Brock, C NW Sec. 24-17-16w..Rig.
Syndicate Oil Co.'s No. 1 Mohr, C SW Sec. 2-18-16w ....Rig on ground.
Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w .....Total depth 3,606 ft; shut down.

RUSSELL COUNTY

Slick et al's No. 1 Berrick, SE SW Sec. 23-15-13w .....Location.
Empire and Prairie's No. 2 Ochs, SE NE Sec. 23-15-14w..Rig.
Austin Drlg. Co.'s No. 1 Rochfellow SE cor. Sec. 6-13-12w.Shut down 425 ft.
Imo O. & G. Co.'s No. 1 Wambley, SE NW NE Sec. 7-14-14w .....Drlg. 1,880 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w.....Shut down 1,010 ft.

SEDGWICK COUNTY

T. C. Johnson's No. 1 Petrie, SW SE Sec. 35-26-1w.....Abandoned 3,470-3,541 ft.; hole full water.
Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w .....Shut down 975 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W½ NE NW Sec. 20-13-4w .....Drlg. 1,255 ft.
Dixie Oil Co.'s No. 1 Miller, NE SE SE Sec. 9-16-3w.....Drlg. 1,800 ft.

SHAWNEE COUNTY

Jenkins & Scott's No. 1 Sherman, NW NE Sec. 28-10-15 .....Shut down 985 ft.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14 .....Shut down 2,180 ft.

SHERIDAN COUNTY

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w .....Spudded; shut down.

STAFFORD COUNTY

Boucher Oil's No. 1 Christenson, NW cor. Sec. 22-22-11w.Drlg. 1,345 ft.
Boucher Oil's No. 1 Groves, NE cor. Sec. 9-22-11w.....Drlg. 2,035 ft.
Midwest's No. 36 Richardson, SE cor. Sec. 36-22-12w.....Drlg. 515 ft.
Gibson's No. 1 Mueller, C SW Sec. 11-23-14w.....Water 4,008-10 ft.; drlg. 4,449 ft.

STEVENS COUNTY

Argus Prod. Co.'s No. 1 Shaffer, C SE Sec. 6-35-38w ....Location.
Argus Prod. Co.'s No. 1 Stone, C NE Sec. 3-33-39w .....Location.
Agate Oil Co.'s No. 1 Gregory, NW SE Sec. 19-33-38w ...Rig.
Argus Prod. Co.'s No. 1 Libon, C NE Sec. 2-34-39w .....Location.
Argus Prod. Co.'s No. 3 Armstrong, C SE Sec. 3-34-39w...Drlg. 1,400 ft.
Argus Prod. Co.'s No. 1 Roach, C NE Sec. 34-32-38w.....Rig.
Argus Prod. Co.'s No. 1 Asher, C NW Sec. 7-35-37w.....Drlg. 1,885 ft.
Argus Prod. Co.'s No. 1 Barrow, C SW Sec. 32-34-38w....Drlg. 2,285 ft.
Argus Prod. Co.'s No. 1 Hicks, C SE Sec. 12-34-39w.....Drlg. 2,725 ft.; top sand 2,668 ft.; 5,000,000 ft. gas.
Argus Prod. Co.'s No. 1 Bride, C SW Sec. 25-33-37w.....Drlg. 2,585 ft.
Argus Prod. Co.'s No. 1 Cross, C SE Sec. 19-32-37w.....Drlg. 2,600 ft.
Argus Prod. Co.'s No. 1 Porter, C SE Sec. 21-32-37w.....Drlg. 2,593 ft.
Argus Gas Co.'s No. 1 Christopher, C SW Sec. 11-33-39w..Comp. 2,460-2,790 ft.; 12,500,000 ft. gas.
Argus Oil Co's No. 1 Parker, C SW Sec. 19-34-36w.....Drlg. 2,896 ft.; 5,000,000 ft. gas.
Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-39w .....Spudding; shut down.
McNabb et al's No. 1 Ramey, C SW Sec. 1-33-38w.....Comp. 2,786 ft.; 8,000,000 ft. gas.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w .....Shut down 1,600 ft.

SUMNER COUNTY

Disney et al's No. 1 Fay, C E half SE Sec. 14-34-1w ....Rig.
E. B. Shawver's No. 2 Work, C NE SE Sec. 29-34-2 ....Rig.
Hatfield's No. 1 Dauber, NE cor. Sec. 18-30-1w.....Shut down 50 ft.
Slick et al's No. 1 Peasel, NW cor. Sec. 33-31-1w.....Chat 3,651 ft.; drilled to 3,668 ft.; drlg. deeper to Wilcox at 4,076-85 ft.; landing casing; Siliceous lime 4,110-14 ft.; water; total depth 4,163 ft.; plugged back to 3,670 ft. making 85 bbls.
E. K. Carey and Laredo Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e .....Wilcox 4,003 ft.; total depth 4,270 ft.; abandoned.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w .....Rig.

TREGO COUNTY

Dixie and Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w .....Drlg. 4,309 ft.
Day et al's No. 1 Guyler, SW NE NE Sec. 36-12-21w.....Shut down 50 ft.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w .....Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w.....U.R. 5-in. csg.; T.D. 4,265 ft.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w .....Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w..Shut down 3,250 ft.

PHELPS COUNTY

Trees Oil's No. 1 Bergan, Sec. 22-6-19w.....Rig on ground.

RICHARDSON COUNTY

Norton et al's No. 1 Albin, NE cor. Sec. 26-1-14 .....10-in. csg. 1,600 ft.

ROCK COUNTY

North Central Dev. & Drlg. Co.'s No. 1 Leonard, SE cor. NE Sec. 14-32-18w .....Drlg. 900 ft.

WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w.....Shut down 555 ft.

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The OIL and GAS JOURNAL

Classified Wants Department

EXPORTS OF AMERICAN EQUIPMENT ARE SHOWING SUBSTANTIAL GAINS

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., May 26.—Exports of casing, pipe for oil pipe lines and oil well and oil refinery machinery have shown substantial gains during the past few years. The falling off in exports of machinery for other industries in recent months has not included the oil industry.

At the present time this branch of the foreign trade of the United States never showed better prospects for holding the world's markets. Not only did the year 1929 give evidence that oil equipment of all kinds is successfully competing with foreign manufacturers in all foreign oil producing countries but the early months of 1930 were notable as showing evidences of this superiority.

The problem in the export of all manufacturers of pipe and machinery used in producing and refining oil is how far this trade will expand. How much more exportation is possible? The specialists of the Department of Commerce regard the present time and the coming year as offering exceptional opportunity to these exporters. However, they do not look upon present methods as promising the best results that are possible to obtain. They believe the American manufacturers of oil producing and refining equipment should make sure of the ground they have conquered by following up their orders so they may know full satisfaction is being met in the use of this material.

Satisfactory Use

The very fact that these exports have shown such popularity that orders have been received in increasing numbers and in increasing amounts is looked upon as inviting criticism on the part of competitors and danger that some slight failure in operation may be seized upon and exaggerated in a way to permit competitors to gain an advantage. The only safe method for holding trade in the view of men trained in export sales is to follow up these sales so that any failure may be corrected promptly without endangering future markets.

It often happens that a slight defect or a failure on the part of the purchaser to properly assemble and use the goods he purchases may cause injurious criticism when a little guidance and advice would cause complete satisfaction and a continuation of orders. Next to selling oil producing and refining machinery the duty of the manufacturer is to know whether it was delivered in perfect condition and used with success. Only personal attention to each order can accomplish this result and wherever any dissatisfaction exists the manufacturer should have a competent representative on the ground to guarantee success of his product.

In 1929 pipes for oil pipe lines and casing were classified as having been exported from the United States to 58 foreign countries with an aggregate tonnage of 113,584 tons. This record compares with exportations in 1928 to 50 foreign countries with an aggregate tonnage of 119,785 tons and with 1927 with exports to 57 countries with an aggregate tonnage of 95,763 tons.

Exports to Colombia amounted to 11,223 tons of casing and oil line pipe in 1927, increasing to 12,523 tons in 1928 and dropping to 2,272 tons in 1929. In both 1927 and 1928 exports to Colombia ranked second to Venezuela but in 1929 Colombia receded to the tenth place among countries importing casing and oil line pipe from the United States.

Exports by Countries

During the past three years Venezuela was far ahead in this class of imports among all the countries receiving these American goods. In 1927 Venezuela took 24,797 tons, increasing to 44,721 tons in 1928 with a slight decrease to 40,554 tons in 1929.

Exports to the Argentine have fallen off from 11,223 tons in 1927 and 12,397 tons in 1928 to 6,158 tons in 1929. The drop in exports to Colombia was largely responsible for the total decline of about 6,000 tons in the exports of 1929 below those of 1928. For the world at large this trade showed increasing popularity of the American product because these individual decreases were the result of conditions of the trade and not because of prestige of the American product.

Canada increased its taking of casing and oil line pipe from 2,299 tons in 1927 to 6,156 tons in 1928 and to 20,614 tons in 1929.

Countries that took over 1,000 tons in 1929 were Rumania, Russia, Canada, Mexico, Trinidad and Tobago, Dutch West Indies, Argentina, Colombia, Peru, Venezuela, British India, Java and Madoera and the other Dutch Indies. Countries that imported less than 1,000 tons, some of them merely negligible quantities, were France, Germany, Italy, the Netherlands, Portugal, Spain, British Honduras, Guatemala, Nicaragua, Honduras, Panama Salvador, Newfoundland and Labrador, the Bermudas, Jamaica, Cuba, Dominican Republic, Haiti, Virgin Islands, Bolivia, Brazil, Chili, Ecuador, Uruguay, Aden, British Malaya, China, Iraq, Japan, Persia, Phillipine Islands, Russia in Asia, Syria, Australia, New Zealand, Belgian Congo, British East Africa, Union of South Africa, Egypt, Algeria, Tunisia and Mozambique.

Cuba imported 677 tons, Iraq 95 tons, Japan 738 tons, Persia 328 tons, the Philippine Islands 821 tons, Australia 608 tons and Egypt 99 tons.

This was the first year Iraq availed itself of these imports and the Philippines increased from 191 tons in 1928 to 821 tons in 1929. Australia engaged in what at one time was regarded by its government as a hopeless search for petroleum increased from 61 tons in 1927 to 204 tons in 1928 and to 608 tons in 1929. Only a few years ago the Australian government warned its citizens against investing in wildcat oil producing enterprises in that country.

Value of Shipments

The latest available preliminary figures showing United States export of oil well machinery for January and February, 1930, give the value of machinery for oil well drilling exported as $1,754,496 compared with $1,444,445 for the same period of 1929; other oil well and oil refining machinery for January and February, 1930, at $3,985,220 compared with $2,219,395 for the same period of 1929 and other well drilling machinery $428,603 compared with $79,558 for the same period of 1928. It is seen that the latest available reports indicate a marked increase in the exportation of oil well and oil refining machinery for the first two months of 1930 over the same period of 1929, with reports of conditions favoring a continuation of this popularity of these American manufacturers.

The total annual United States exports of oil well and oil refining machinery of all classes showed oil well drilling machinery valued at $9,080,575, other oil well and oil refining machinery $14,813,028 and other well drilling $1,101,523 a total for 1929 of $20,995,126.

The total exports of these three classifications covering oil well and oil refining machinery for the months of January and February, 1929, amounted to $3,743,398 increasing for January and February, 1930, to $6,168,319, showing an increase of $2,424,921 or nearly 65 per cent.

Of the total United States' exports of oil well and oil refining machinery in 1929 amounting to $20,995,126 British India took $956,099, Venezuela $4,182,323 and Netherlands East Indies $3,432,512, a total for those three countries of $8,570,934.

The foregoing compares with total domestic exports of oil well and oil refining machinery for 1928 of $16,193,004 showing an increase of over 25 per cent

for the exports of these manufacturers in 1929 over 1928.

The largest gains thus far recorded for the year 1930 were for the month of February when these exports totaled in value $3,494,091 compared with $1,804,720 in February, 1929.

Department Would Help

Export figures are not compiled by the Bureau of Foreign and Domestic Commerce under sufficient classifications to make known the amounts of various articles used in drilling and refining oil abroad that are obtained from this country. Declarations of exporters provide suffficient details for obtaining many more classifications from the records of customs houses. Should the oil industry be sufficiently interested in obtaining more detailed statistics there is little doubt that their wishes would be complied with if properly presented to the Department of Commerce.

It is known, however, that drilling rigs of American make are most favored in foreign markets. Possibly three-fourths of the drilling rigs operated in the oil fields of the world come from the United States. In the case of pumping machinery, pipe couplings, and accessories of that kind the American exporter has not been so active. In South America pipe for pipe lines comes, to a very large extent, from European sources and as there is no distinct classification of such pipe in our export statistics as compiled monthly it is difficult to tell how much of this pipe originates in the United States.

The failure of the oil well and oil refining machinery industries to organize for export trade, in the opinion of many experts giving attention to foreign trade here, has resulted in the failure of individual manufacturers to obtain much detailed information that should go to them. The Department of Commerce itself could be of vastly greater assistance to such exporters if they would get together in organizations so that the work of obtaining, classifying, and distributing to their members with promptness could be attended to by competent representatives.

The American Automotive Association is regarded as a model in the conduct of its export trade and everything it does would be at the disposal of the manufacturers of oil machinery of all kinds as a guide for their own organization if they cared to avail themselves of it. As the case now stands the oil machinery industry is regarded as one of the least organized industries in the machinery trade without a national association to look after its domestic affairs and without any organized efforts to give it information on foreign trade.

Value of Organization

By organization the oil machinery industry of the United States could be informed concerning every demand of the foreign trade. It could know exactly what is being sold abroad, prevailing prices and individual preferences of those who use such materials in foreign oil fields.

The latest complete statement of oil well and oil refinery machinery exported with countries of destination shows that 72 countries or subdivisions of nations are importing oil well and oil refinery machinery of some kind and as the expansion of the industry continues it is expected that the number of destinations must continue to increase. These destinations first make their appearance as importers of such machinery with small orders which frequently do much to permit the firm obtaining them to establish itself in the new oil field. Information for the oil machinery trade making such orders available could be obtained and made known to the entire trade by a properly organized association.

The field is too broad for the average manufacturer of oil machinery to keep himself informed. The expense would be too great for the average manufacturer of this kind although the pro rata contributions required to give information to the entire industry would be small.

Some interest has been shown by individual manufacturers of oil machinery in suggestions for trade organizations to take care of their interests but up to today no such plan has reached a definite stage of development. It is believed, however, that it is only a question of time when this will be done and the experts of the Department of Commerce take that view of the outlook.

OPERATION AND CONTROL OF NATURAL GAS WELLS

By Frank F. Finney
Superintendent of Gas Department, Indian Territory Illuminating Oil Co.*

To deliver gas to the consumer with a minimum of waste and to educate the public to use it wisely and to its greatest benefit are pipe line and distribution problems. To complete and operate a well so as to deliver into the pipe line the maximum amount of gas is the producer's problem.

The potential amount of gas a well is capable of producing is reduced to the extent of waste, both at the surface and underground and to the encroachment of water into the producing formation. Successful operation depends on the care and skill used in preventing waste and retarding water encroachment.

It is here assumed that the casing is cemented on top of the producing sand, shutting off top water and preventing the migration of gas to upper formations.

The most prolific cause of waste from dry gas wells has been the practice of blowing wells to the atmosphere for the purpose of gauging the volume or for blowing off the water. It is believed that with proper care and equipment the opening of wells to the atmosphere for these purposes is no longer necessary or advisable. At times it may be necessary to open wells for repairs, but a method has recently been developed by H. C. Otis, published in The Oil and Gas Journal, October 17, 1929, whereby wells can be tubed under pressure with practically no waste of gas.

Certain state and government rules and regulations requiring the open flow gauge to be taken periodically, have contributed in no small degree to waste. These laws and regulations were predicated on the theory that it is necessary to take the open flow volume, to set up standards from which to compute the amount of gas permissible to be taken from a well in order to prevent the lowering of pressure on the sand to an injurious extent. The conviction is growing that this practice is unnecessary and that the proper ratio of rock pressure to working pressure can be determined in a direct way without lowering the pressure on the sand to an injurious extent. Incidentally it is of interest to know that recent tests made by Walter Reid, consulting engineer of Dallas, Tex., indicate that open flow values calculated from tables in common use are highly inaccurate when applied to large wells and high viscosities. New tables prepared by him give values at an impact pressure of 100 pounds, more than twice that of the old tables.

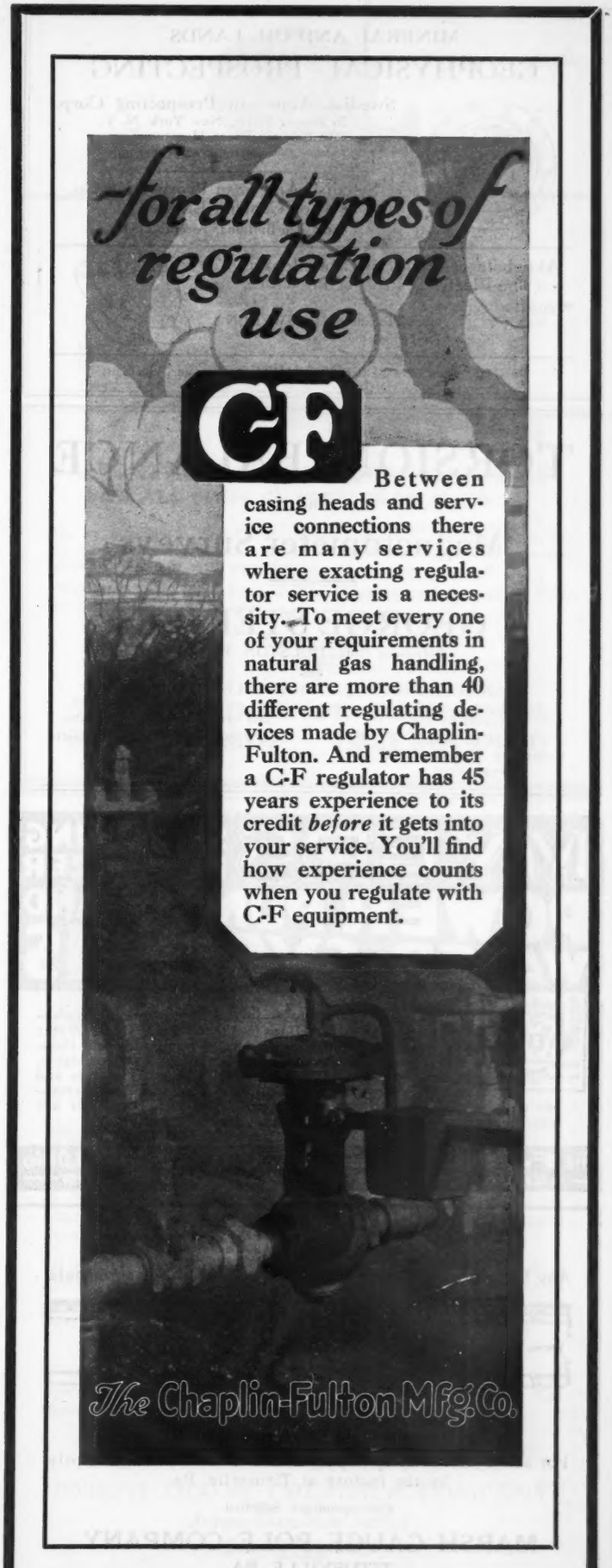
Although the waste of gas occasioned by the practice of taking open flow is enormous, it is of little consequence in comparison to the injury done to the well by reducing the pressure on the sand and permitting the water to enter. Several plans have been proposed as substitutes for the open flow gauging method.

One plan which has been in successful operation for more than a year on Osage Indian lands, may be described as the 90 per cent system. The well is measured while it is operating at a settled pressure equal to 90 per cent of the shut-in rock pressure. The daily volume at this rate of flow is called available gas. This can either be measured by meter into a pipe line or with a critical flow orifice prover.

The seven-day recording gauge provides means for checking ratio of rock pressure to working pressure at any time. Also it serves as a check on the man

(Continued on Page 168)

*Before Gas Division, Oklahoma Utilities Association Convention, Tulsa.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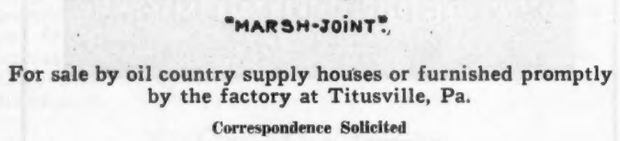

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NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Week ending May 14

Carson County

Empire Gas & Fuel Co.'s No. 24 S. B. Burnett estate, 1,320 feet south and 2,640 feet west of the NE cor., Section 42, Block 5, I.&G.N. Gibson Oil Corp.'s No. 1 E. J. Moore, 990 feet south and 330 feet west of the NE cor. N half SE, Section 20, Block 7, I.&G.N.

Gray County

Adams-Prince & Tharp's No. 1 J. S. Morse (Cantone), 330 feet north and west of the SE cor. N half SE, Section 15, Block A-9, H.&G.N. B. Dunlop's No. 5 J. S. Morse, 330 feet south and west of the NE cor. S half NW, Section 2, Block 26, H.&G.N. B. Dunlop's No. 6 J. S. Morse-B, 330 feet south and west of the NE cor. N half NW, Section 2, Block 26, H.&G.N. The Texas Company's No. 8 A. Chapman-A, 855 feet south and 200 feet west of the NE cor. NW, Section 50, Block 25, T.&G.N. The Texas Company's No. 7 J. E. Williams, 1,120 feet north and 330 feet east of the SW cor. NE, Section 7, Block 1, A.C. H.&B. Camel Oil Co.'s No. 3 W. W. Harrah-B, 990 feet south and west of the NE cor. NE, Section 150, Block 3, I.& G.N. Danciger Oil & Refining Co.'s No. 1 T. W. Catlin and others, 175 feet north and 300 feet west of the southeast corner of the north 71 acres of the east 231 acres of the T. W. Catlin and others 392-acre tract out of Section 57, Block 3, I.&G.N. Empire Gas & Fuel Co.'s No. 2 J. J. Wall, at the C SE, Section 161, Block 3, I.&G.N. (Shown as C. C. Wysong). The Texas Company's No. 15 J. B. Bowers, 990 feet north and east of the SW cor. E half, Section 89, Block B-2, H.&G.N. Wilcox-Pampa Oil Co.'s No. 15 Combs & Worley, 330 feet north and east of the SW cor. NW SW, Section 35, Block 3, I.&G.N. Wilcox-Pampa Oil Co.'s No. 16 Combs & Worley, 330 feet south and east of the NW cor. NE NE, Section 37, Block 3, I.&G.N.

Wheeler County

H. R. Anderson's No. 1 G. R. Reneau, at the C SW NE, Section 98, Block 23, H.&G.N. Lone Star Gas Co.'s No. 1 A. H. Finley, at the C SW NW, Section 66, Block 17, H.&G.N. McGee and others' No. 1 W. L. Jolly, at the C NE, Section 15, Block A-8, H.&G.N. Murchison & Fain's No. 13-A I. Close, at the C NW NW, Section 82, Block 23, H.& G.N.

NORTH CENTRAL AND WEST TEXAS

Week ending May 14

Archer County

Consolidated Oil Co.'s No. 1 H. F. Harmel, 150 feet south and 1,083 feet west of the northeast corner of the south 110 acres of Section 2,490, T.E.&L. F. P. Cullum's No. 3 Falls County School Land, 150 feet north and east of the southwest corner of the south 11 acres of the east 50 acres of Section 8, Falls County School Land, A-130. C. W. Gilliland and others' No. 4 G. Symank, 150 feet north and 450 feet east of the SW cor. of the N half SW, Section 11, G. P. Meade Subdivision, L. M. Pasture. Madden & Hunt's No. 1 L. J. Kunkel, 150 feet north and east of the southwest corner of the L. J. Kunkel 160-acre tract out of the B.S.&F. Survey No. 2, A-827. J. H. Massie's No. 11 J. T. Richardson, 450 feet north and 500 feet west of the SE cor. N half of the west 40 acres of Section 14, South Anderson Ranch Subdivision. Steel Drilling Co.'s No. 1 C. E. Goodwin, 150 feet north and east of the southwest corner of the north 50 acres of the west 100 acres of Section 70, Club Ranch Subdivision. Vigil Oil & Gas Co.'s No. 8 H. F. Harmel, 150 feet south and west of the northeast corner of the south 210 acres of Section 2,490, T.E.&L.

Baylor County

Consolidated Oil Co. and others' No. 17 W. H. Portwood, 1,141 feet north and 150 feet west of the SE cor. SW, Section 1,281, T.E.&L. Grisham & Barnsdall Oil Co.'s No. 4 W. H. Portwood (Harry), 1,073 feet north and 150 feet east of the SW cor. SE, Section 1,281, T.E.&L. Perkins & Cullum's No. 1 W. H. Portwood-A, 450 feet south and east of the northwest corner of the southwest of the W. H. Loggins Survey.

Brown County

Humble Oil & Refining Co.'s No. 1 E. P. and W. H. Kilgore-A, 2,585 feet south and 1,005 feet east of the northwest corner of the heirs N. B. Mitchell Survey No. 153, being 150 feet north and 1,005 feet east of the southwest corner of their 200-acre lease "A". D. C. Sellers and others' No. 1 Brooks Smith Realty Co., 1,000 feet southwest of the northeast line and 200 feet northwest of the southeast line of the Brooks Smith Realty Co. 150-acre tract out of the J. S. Thom Survey No. 53.

Callahan County

J. A. Bearman and others' No. 1 W. A. Hinds, 200 feet south and west of the NE cor., Section 13, E.T.R.R. Colgin & Johnson's No. 1 A. Cutbirth and others, 150 feet south and west of the NE cor. NW NE, W. Scurlock Survey No. 207, (shown as J. B. Cutbirth). R. Guffey and others' No. 1 R. D. Williams, 150 feet south and east of the NW cor. NE, Section 26, Deaf & Dumb Asylum Land (shown as J. J. Clark).

Coleman County

Tower & McKanna's No. 1 F. A. Lane, 150 feet north and west of the southeast corner of the F. A. Lane 55.5-acre tract (shown as C. H. Howard) out of the M. McCarty Survey No. 167. Joines & Engle's No. 1 W. O. Garrett, 350 feet south and 500 feet west of the northeast corner of Lot 32, J. S. Martin Survey No. 217 (shown as J. S. Sanderson). L. J. Kelly and others' No. 1 J. W. Long, 2,000 feet north and 1,200 feet west of the southeast corner of the J. W. Long 160-acre tract (shown as Mrs. M. J. Austin) out of Section 58, H.T.&B.

Comanche County

M. T. Anderson and others' No. 1 I. C. Plumblee, 310 feet north and 1,214 feet west of the southeast corner of the G. A. Troutt Survey (shown as H. H. Brooks).

Cooke County

Sun Oil Co.'s No. 3 J. W. Milburn, 150 feet north and 750 feet east of the southwest corner of the J. W. Milburn 80-acre tract out of the J. DeGuire Survey, A-341.

Eastland County

Mook-Texas Oil Co.'s No. 11 M. Sibley, 890 feet south and 450 feet east of the northwest corner of Lot 19, W. Van Norman Survey. Lone Star Gas Co.'s No. 6 W. H. Grove, 330 feet south and east of the NW cor., Section 487, S.P. R.R.

Foard County

California Co.'s No. 1 W. H. Nichols, Sr., 990 feet south and east of the NW cor., Section 298, Block 3, H.&T.C.

Glasscock County

Simms Petroleum Co.'s No. 5 R. C. Coffee, 2,310 feet south and west of the NE cor., Section 22, Block 33, T-2-S, T.&P.

Irion County

Fox & Thorsen's No. 3 F. Tankersley, 1,520 feet north and 450 feet west of the southeast corner of the F. Willig Survey No. 712. Straughan & Texannate Oil Co.'s No. 2 J. M. Nutt, 504 feet south and 150 feet west of the NE cor. NW NW, Section 6, Gonzales County School Land.

Jack County

Watchorn Oil & Gas Co.'s No. 1 Mrs. R. J. Deck, 300 feet south and east of the most westerly northwest corner of the J. H. Deck Survey, A-1,069.

Hardeman County

J. Woods and others' No. 1 W. D. Berry, 150 feet north and east of the NW cor., Section 55, Block 16, H.&T.C., and located in the William C. Edward Survey No. 2.

Loving County

Lockhart & Co.'s No. 6 W. W. Hubbard, 330 feet northwest of the southeast line and 154 feet southwest of the north-

east line of Section 83, Block 33, H.&T.C. J. Rush and others' No. 1 J. Wheat, 1,650 feet southeast of the northwest line and 330 feet northeast of the southwest line of Section 85, Block 1, W.&N.W.R.R.

Mitchell County

California Co.'s No. 9 W. L. Foster, Lease 1, 2,307 feet north and 1,653 feet east of the SW cor., Section 6, Block 29, T-1-S, T.&P.

Montague County

Bridwell Oil Co.'s No. 5 J. S. Dennis, 900 feet south and 1,225 feet west of the northeast corner of the J. S. Dennis 383-acre tract out of the F. Robertson Survey, A-620. Carter & Rycade Oil Corp.'s No. 12 R. W. Cunningham and others, 150 feet north and 1,050 feet west of the southeast corner of their 40-acre lease and located in the L. B. Norton Survey A-574.

Palo Pinto County

Hynds and others' No. 1 P. F. Dalton, 1,070 feet northeast of the southwest line and 1,051 feet northwest of the southeast line of the P. Miller Survey, A-312.

Shackelford County

Freeman and others' No. 1 Morris & Buie, 220 feet north and east of the SW cor. S half SE, Section 201, Block 10, E.T.R.R.

Stephens County

Hickok Production & Development Co.'s No. 1 M. Paschal, 300 feet south and 500 feet west of the SE cor. SE, Section 9, Lunatic Asylum Land. Lone Star Gas Co.'s No. 2 G. W. Elliott, 330 feet south and west of the NE cor., Section 1, Block C, S.P.R.R. Same company's No. 5 H. B. Henry, 550 feet north and 1,980 feet east of the SW cor., Section 53, Block 7, T.&P.

Tom Green County

Ellis and others' No. 3 Lewis, 1,350 feet south and 450 feet east of the southwest corner of the J. Webb Survey No. 77, and located in the A. Black Survey No. 75.

Wichita County

Arkansas Fuel Gas Co.'s No. 33 Kemp & Kempner-A, 900 feet south and 500 feet west of the southeast corner of Block 81, Kemp Wichita Valley Land, and located in Block 82. Same company's No. 34 Kemp & Kempner-A, 150 feet south and east of the most westerly northwest corner of Block 82, Kemp Wichita Valley Land. Humble Oil & Refining Co.'s No. 25 W. H. Taylor, 150 feet north and 800 feet west of the southeast corner of Block 81, Kemp Wichita Valley Land. Lambert & Trout's No. 2 W. W. Overby, 150 feet south and 450 feet west of the most easterly northeast corner of the south 60 acres of the W. W. Overby tract out of the J. M. Sharp Survey, A-262. C. P. Sheldon's No. 1 J. W. Swanson and V. T. Gober, 450 feet north and 1,171 feet east of the northwest corner of the C. T. Marshall tract out of the J. Cole Survey A-37, and located in the B. F. Blount Survey No. 4, A-791.

Wilbarger County

Atlantic Oil Producing Co.'s No. 14 W. T. Waggoner (Seigler), 150 feet north and 1,977 feet west of the SE cor., Section 50, Block 2, H.&T.C. Davis Oil Corp.'s No. 9 W. T. Waggoner, 150 feet south and 450 feet east of the northwest corner of its lease out of Section 35, Block 2, H.&T.C. Fain-McGaha Oil Corp.'s No. 26 W. T. Waggoner-W, 615 feet south and 1,430 feet east of the northwest corner of its lease "W" out of Section 32, Block 4, H.&T.C. Golding-Cochran and others' No. 5 W. T. Waggoner-K, 505 feet south and 205 feet east of the NW cor. NW SW, Section 4, Block 17, H.&T.C. Grayback Development Co.'s No. 4 Waggoner (Smith), 150 feet north and 200 feet east of the SW cor. E half SE SE, Section 50, Block 2, H.&T.C. Staley-Wynne & Co.'s No. 9 Waggoner-B, 205 feet south and west of the NE cor. NE SW, Section 25, Block 4, H.&T.C. Waggoner Refining Co.'s No. 1 W. T. Waggoner-Q, 450 feet south and 150 feet east of the NW cor. NE NE, Section 2, S.P.R.R.

Young County

G. A. Alexander, Jr.'s No. 1 W. Ward, 150 feet north and west of the SE cor. S half SW, Section 284, T.E.&L. Beard & Hammon's No. 1 Cooper, 570 feet north and 1,284 feet west of the SE cor., Section 157, T.E.&L., being 150 feet south and east of the northwest corner of Block 8, and located on Lot 10, Bloodworth First Addition, town of Olney. C. J. Kliner's No. 1 A. E. Logan, 150 feet north and west of the SE cor. NW, Section 2,251, T.E.&L.

Winkler County

Southern Crude Oil Purchasing Co.'s No. 6 T. G. Hendricks T-67-2D, 1,320 feet north and 990 feet east of the SW cor., Section 28, Block 26, School Land.

Lindsey Drilling Co.'s No. 1 A. Heatherly, 150 feet south and west of the northeast corner of the north 15 acres of the east 25 acres of the south 75 acres of the A. Heatherly tract out of Section 1,461, T.E.&L. McDonald & Campbell's No. 1 B. H. Larimore, 150 feet south and 750 feet east of the NW cor. SW, Section 2,244, T.E.&L. Nix & Dale's No. 2 J. B. Daniel, 150 feet north and 450 feet east of the SW cor. NE, Section 164, T.E.&L. Panhandle Refining Co.'s No. 3 J. D. Lowe, 150 feet north and 1,050 feet east of the SW cor. N half NW, Section 250, T.E.&L. Perkins & Cullum's No. 10 E. J. Dunagan, 750 feet north and east of the southwest corner of their 65-acre lease out of Section 157, T.E.&L. Perkins & Cullum's No. 11 E. J. Dunagan, 1,050 feet north and 450 feet east of the southwest corner of their 65-acre lease out of Section 157, T.E.&L. E. Remington's No. 4 E. M. Remington, 450 feet south and 150 feet west of the NE cor. W half NW, Section 2,248, T.E.&L. Riner & Omohundro's No. 4 E. C. Keith, 150 feet south and 450 feet west of the northeast corner of the north 20 acres of the east 60 acres of the south 160 acres of Section 268, T.E.&L. Smith-Archer Oil Co.'s No. 2 A. C. Watson, 150 feet north and east of the SW cor. N half NE, Section 250, T.E.&L.

W. R. Stafford's No. 1 E. Corley, 150 feet north and west of the southeast corner of the east 30 acres of the SW Section 179, T.E.&L. O. R. Tautenhaha's No. 1 F. W. Deiter, 150 feet south and west of the northeast corner of the south 40 acres of the east 60 acres of the south 100 acres of the west 200 acres of Section 191, T.E.&L. Underwood Drilling Co.'s No. 1 R. T. Kerr, 150 feet north and 1,100 feet west of the southeast corner of the east 80 acres of the R. T. Kerr 152-acre tract out of Section 173, T.E.&L. F. Barron's No. 1 J. Kisinger, 1,650 feet southwest of the southwest line of Section 3, B.B. B.&C., A-27, and 2,350 feet northwest of the northwest line of the W. J. Orrick Survey, A-217, and located in the John Conner Survey, A-27, being 200 feet south and 500 feet east of the northwest corner of his 20-acre lease. W. W. Barron's No. 1 C. E. Howard, 1,050 feet north and 150 feet west of the southeast corner of the C. E. Howard 100-acre tract out of Section 243, T.E.&L. Bolin & Lindsey's No. 8 D. L. Wolf, 450 feet south and 150 feet east of the northwest corner of their 30-acre lease out of Section 165, T.E.&L. Bridgeport Machine Co.'s No. 1 J. W. Knox, 150 feet south and 750 feet east of the northwest corner of the Washington Co. R.R. Survey No. 1, A-1,280.

Bridwell & Stump's No. 1 T. J. Routon, 1,250 feet north and 150 feet east of the SW cor., Section 181, T.E.&L. Daniels-Adair and others' No. 1 J. H. Wilson, 150 feet north and 200 feet west of the southeast corner of the south 27 acres of the J. H. Wilson 82-acre tract and located in the W. H. Keen Survey, A-1,932. R. D. Garrett's No. 1 D. C. Ward, 150 feet south and east of the northwest corner of the south 40 acres of the west 60 acres of the S half, Section 260, T.E.&L. V. L. Grisham's No. 1 C. J. Bullock, 150 feet south and east of the northwest corner of the southeast 50 acres (square), of Section 335, T.E.&L. L. Groves' No. 1 J. L. Groves, 1,800 feet north and 150 feet west of the SE cor., Section 1,445, T.E.&L. L. P. Hammond's No. 1 D. L. Wolf, 555 feet north and 1,584 feet west of the SE cor., Section 157, T.E.&L., being 150 feet south and west of the northeast corner of Block 10, Bloodworth First Addition, town of Olney. Holbrook & Woods' No. 1 G. M. Jones, 150 feet south and east of

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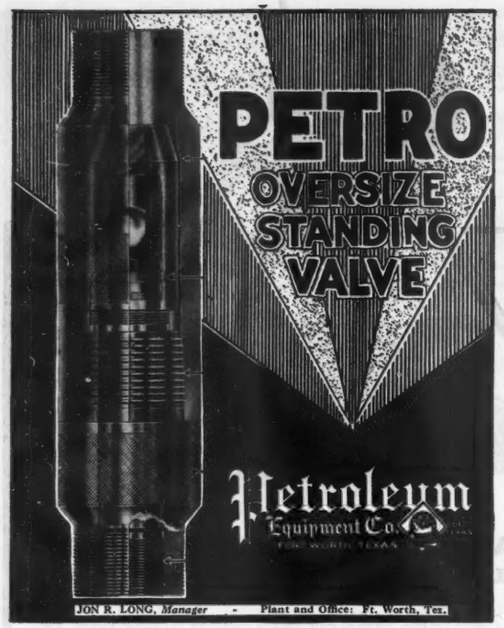

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the northwest corner of the north 20 acres of the east 40 acres of the south 80 acres of the east 160 acres of Section 25, T.E.&L. Hunter Oil Corp.'s No. 4 H. Benson-A, 1,008 feet south and 1,390 feet east of the NW cor., Section 157, T.E.&L., being 408 feet south and 150 feet west of the northeast corner of its lease "A". Hunter Oil Corp. and others' No. 1 J. M. Bloodworth-B, 1,080 feet north and 1,550 feet west of the SE cor., Section 157, T.E.&L., being 150 feet south and west of the northeast corner of Block 38, Olney Development Co. Addition, town of Olney. Independent Drilling & Production Co.'s No. 3 J. D. Lowe, 150 feet south and 750 feet east of the NW cor. S half NW, Section 250, T. E.&L. Tower & McKanna's No. 1 J. Ware, 1,100 feet north and 800 feet west of the southeast corner of the J. W. Manning Survey, A-188, being at the center of their 3-acre lease.

T. B. Slick's No. 2 J. E. Morrison Co. "C," 150 feet south and 250 feet east of the NW cor. of the B. H. Hammond Survey, A-1,320. T. B. Slick's No. 1 A. M. Graham estate, 330 feet south and west of the most northerly northeast corner of the A. M. Graham estate 180-acre tract out of the P. Pier Survey, A-219. Roeser-Pendleton-Roberts & Slick's No. 1 F. T. Arnold, 2,350 feet north and 2,200 feet west of the southeast corner of the P. Pier Survey, A-219, being 269 feet south and 357 feet east of the northwest corner of the F. T. Arnold 15-acre tract. Nash & Windfohr's No. 2 J. Ware-B, 700 feet south and 1,570 feet east of the northwest corner of the J. Ware 69.5-acre tract out of the J. W. Manning Survey, A-188.

Corrections

Loving County—Lockhart & Co.'s No. 3 W. W. Hubbard, 330 feet northwest of the southeast line and 814 feet southwest of the northeast line of Section 83, Block 33, H.&T.C.

Wilbarger County—Fain-McGaha Oil Corp.'s No. 20 W. T. Waggoner-L, 1,050 feet south and 1,505 feet west of the northeast corner of the lease "L" out of Section 31, Block 4, H.&T.C.

Brown County—Humble Oil & Refining Co.'s No. 2 E. P. and W. H. Kilgore-A, 1,935 feet south and 450 feet west of the northeast corner of heirs N. B. Mitchell Survey No. 153, being 1,000 feet south and 450 feet west of the northeast corner of their 200-acre lease "A" (formerly Kilgore-E). Tex Cal Oil Co.'s No. 2 W. A. McEntire, 550 feet south and 1,200 feet east of the NW cor. S half, Section 11, H.T.&B., being 150 feet north and west of the southeast corner of its lease. Tex Cal Oil Co.'s No. 4 J. C. Martin and others-B, 150 feet south and 1,213 feet east of the most westerly northwest corner of the J. C. Martin and others tract out of Section 11, H.T.&B.

Young County—Independent Drilling & Production Co.'s No. 1 J. D. Lowe, 470 feet south and 750 feet east of the NW cor. S half NW, Section 250, T.E.&L. Independent Drilling & Production Co.'s No. 2 J. D. Lowe, 470 feet south and 450 feet east of the NW cor. S half NW, Section 250, T.E.&L.

OPERATION AND CONTROL OF NATURAL GAS WELLS

(Continued from Page 165)

looking after the well and reflects the condition of the well.

By controlling the pressure and flow with discs or choke nipples, the proper ratio of rock pressure to working pressure is maintained, thereby holding the water in check, and prolonging the trapping or drowning out of the gas to the lowest possible pressures.

This method of control also facilitates water removal from the well by siphon line into the separator. The water is then ejected from the separator by automatic trap without waste of gas.

The hookup is particularly adaptable to small wet wells. Deep wells with large volumes and high rock pressures such as found in the Oklahoma City Field require different treatment.

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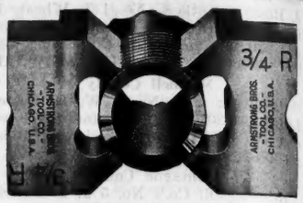

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pipe line, it can be controlled by choke nipples or flow beans installed in the line and properly heated, but a high pressure regulator is an added safety measure, and relief valves are absolutely essential. Accidents have occurred and men killed, which would not have happened if safety valves had been provided.

The control and utilization of gas from combination oil and gas wells with high rock pressures has been made practical and comparatively safe by the use of choke nipples at the well and high pressure separators. Should the flow of gas be greater than the pipe line can absorb, back pressure regulators on the vent lines from the separators release the excess and prevent the pressure building up to a dangerous extent.

Time does not permit discussing at any length the methods used in the control of gas while drilling. Its control is now made possible by the use of mud, cement, high pressure pumps, pipe and other equipment of sufficient strength, not available a few years ago. Consequently wells out of control sometimes cratering or on fire are less frequent. Accidents still happen and wells get temporarily out of control and sometimes on fire often from unpreventable causes such as lightning striking the well or the cutting out of pipe or fittings at the surface, but no longer is it necessary on account of lack of equipment, practical methods or experienced men, for wells to blow for months and even years, as the Big Moses well drilled in West Virginia in 1894 did and as many other wells have done. The extinguishing of fires by the use of high explosives electrically discharged, is a question in most cases of only a few days or possibly hours, when such expert shooters as Tex Thornton or M. M. Kinley are on the job.

In view of the great progress made in drilling and operating practices during the past few years, continued improvement can confidently be expected.

CONFIRM CONCESSION

NEW YORK, May 26.—The Venezuelan Atlantic Refining Co. and the Andes Petroleum Corp., joint owners of the Gulf of Maracaibo Corp., have been advised by their legal representatives in Venezuela that the Federal and Cassation Court of Venezuela has promulgated a decision confirming Gulf's title to concessions covering 325,000 acres in the District of Paez, State of Zuila.

The greater part of the area awarded by the court had been claimed by the Maxudian Oil Corp. and the Paez Exploration Co., the case having been pending in the Venezuelan courts for the past two years. Under Venezuelan laws, there is no appeal from a decision of the Federal and Cassation Court and the verdict, therefore, is final.

Gulf of Maracaibo has a drilling agreement with Creole Petroleum, subsidiary of the Standard Oil Co. of New Jersey, and is now putting down a test well which has picked up gas and oil showings.

LION BUYS PENNSYLVANIA

NEW YORK, May 24.—Lion Oil Refining Co. has acquired control of the Pennsylvania Oil Co., operating a chain of 21 retail service stations and 4 bulk plants in Memphis, Tenn., and vicinity. The purchase will add approximately 2,250,000 gallons to sales of Lion Oil products during the current year, according to T. H. Barton, president.

Lion Oil has acquired more than 130 retail outlets during the past year, in continuing its policy of developing sales in preferential territory, Col. Barton said.

HARRIS COUNTY PURCHASE

HOUSTON, Texas, May 26.—The Texas Company has purchased from R. E. Burt an undivided half interest in a 726-acre tract in the Stevenson Survey, Harris County. The tract is on the east side of the Humble Field, which is in line for development of the deeper horizons. The deal is reported to involve a consideration of $800,000.

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